COLOR VIDEO CAMERA
CAMERA ADAPTOR
1.5INCH ELECTRONIC VIEWFINDER
ZOOM LENS

DXC-327
CA-327
DXF-501
VCL-712BX

VOL. 2

BLOCK DIAGRAMS
SEMICONDUCTORS
SCHEMATIC DIAGRAMS
BOARD ILLUSTRATIONS
SPARE PARTS

SONY
SONY
3CCD
VTR START/RETURN VIDEO

SONY®

SERVICE MANUAL

SAFETY RELATED COMPONENT WARNING

Components identified by shading and ⚠ marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC rules.

For the customers in Canada

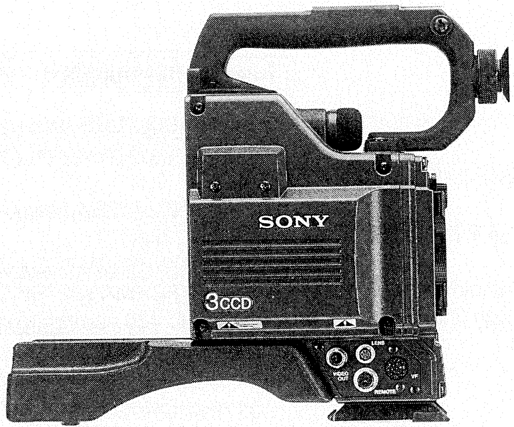
This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Pour les utilisateurs au Canada

Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.

DXC-327

COLOR VIDEO CAMERA



SPECIFICATIONS

Camera head (DXC-327/327P)

Image device	Interline-transfer CCD, 3-chip
Picture elements	768 × 494 (h/v) (NTSC) 752 × 582 (h/v) (PAL)
Sensing area	6.4 mm × 4.8 mm (equivalent to a 1/2-inch pickup tube)
Built-in filters	1: 3200 K 2: 5600 K + 1/8 ND 3: 5600 K
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC-327) CCIR standards, PAL color system (for DXC-327P)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec. (NTSC) 625 lines, 2:1 interlace, 25 frames/sec. (PAL)
Scanning frequency	Horizontal: 15.734 kHz (NTSC) 15.625 kHz (PAL) Vertical: 59.94 Hz (NTSC) 50.00 Hz (PAL)
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK IN connector (When the CA-327/327P, CA-325/325P, CA-325A/325AP or CA-325B is used) or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK IN connector of the CCU-M3/M3P (When the CA-327/327P or CA-325/325 is used)
Horizontal resolution	700 lines (center)
Minimum illumination	20 lux with F1.4, + 18 dB
Sensitivity	2000 lux with F5.0, at 3200 K
Gain selection	0 dB, 9 dB or 18 dB, selectable
Video output	Composite signal: 1.0 Vp-p, sync negative, 75 Ω unbalanced Y/C separate signal: Y: 1.0 Vp-p, sync negative, unbalanced C: burst level 0.286 Vp-p (NTSC) 0.3 Vp-p (PAL) without sync
Signal to noise ratio	60 dB (NTSC) 58 dB (PAL)
Registration	0.05 % for Zone I 0.05 % for Zone II 0.05 % for Zone III

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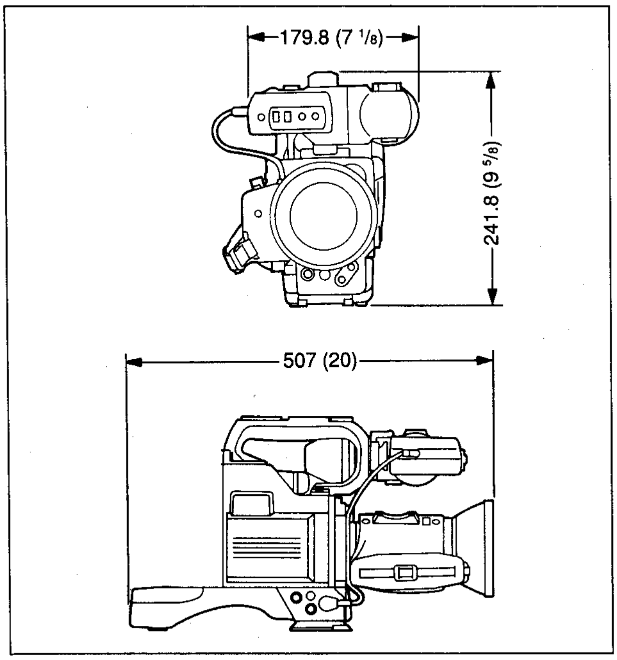
SERVICE MANUAL

Inputs/Outputs	VIDEO OUT: BNC-type LENS: 1/2-inch lens connector (7-pin) 2/3-inch lens connector (6-pin) VF: 8-pin REMOTE: 10-pin
Power requirements	12 V DC
Power consumption	8 W
Operating temperature	–5°C to +45°C (23°F to 113°F)
Storage temperature	–20°C to +60°C (–4°F to 140°F)
Weight	2 kg (4 lb 7 oz)
Dimensions	See the illustrations below. Unit: mm (inches)

Dimensions



Carrying case (LC-420)

Weight	About 7.7 kg (15 lb 7 oz)
Dimensions	About 790 × 440 × 340 mm (w/h/d) (31 1/8 × 17 3/8 × 13 1/2 inches)

Accessories supplied

CCQ-2BRS camera cable (with Q-type 14-pin connectors) (supplied with the DXC-327K/327PK/327L/327PL only) (1)
VCL-712BX zoom lens (supplied with the DXC-327K/327PK only) (1)
DXF-327/327CE electronic viewfinder (supplied with the DXC-327K/327PK/327L/327PL only) (1)
LC-420 carrying case (supplied with the DXC-327K/327PK/327L/327PL only) (1)
VCT-12 tripod attachment (supplied with the DXC-327K/327PK/327L/327PL only) (1)
Lens cap (1)
Chart for flange focal length adjustment (1)

Design and specifications are subject to change without notice.

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BKG-4
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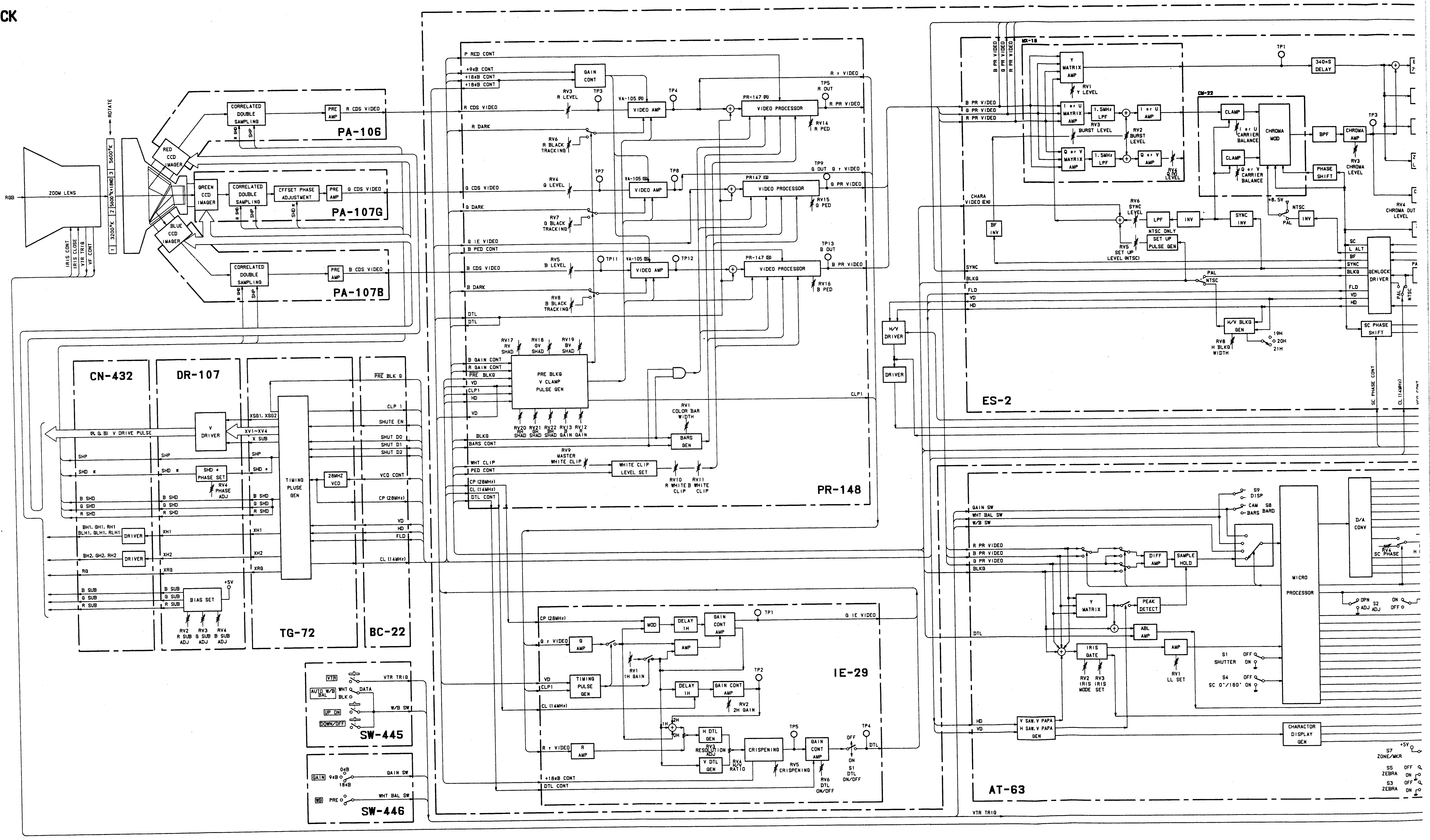
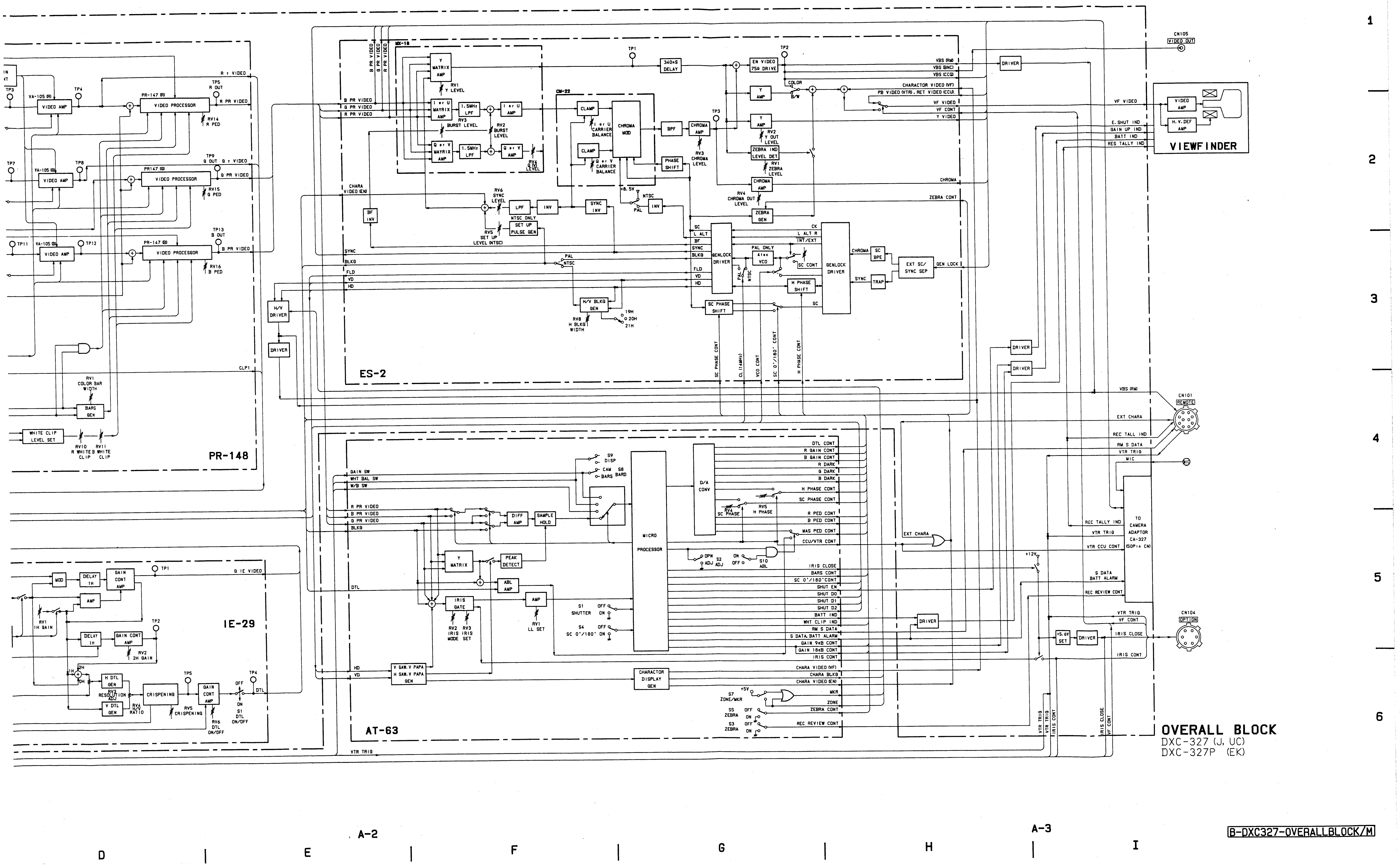
SECTION A
BLOCK DIAGRAMS

OVERALL BLOCK

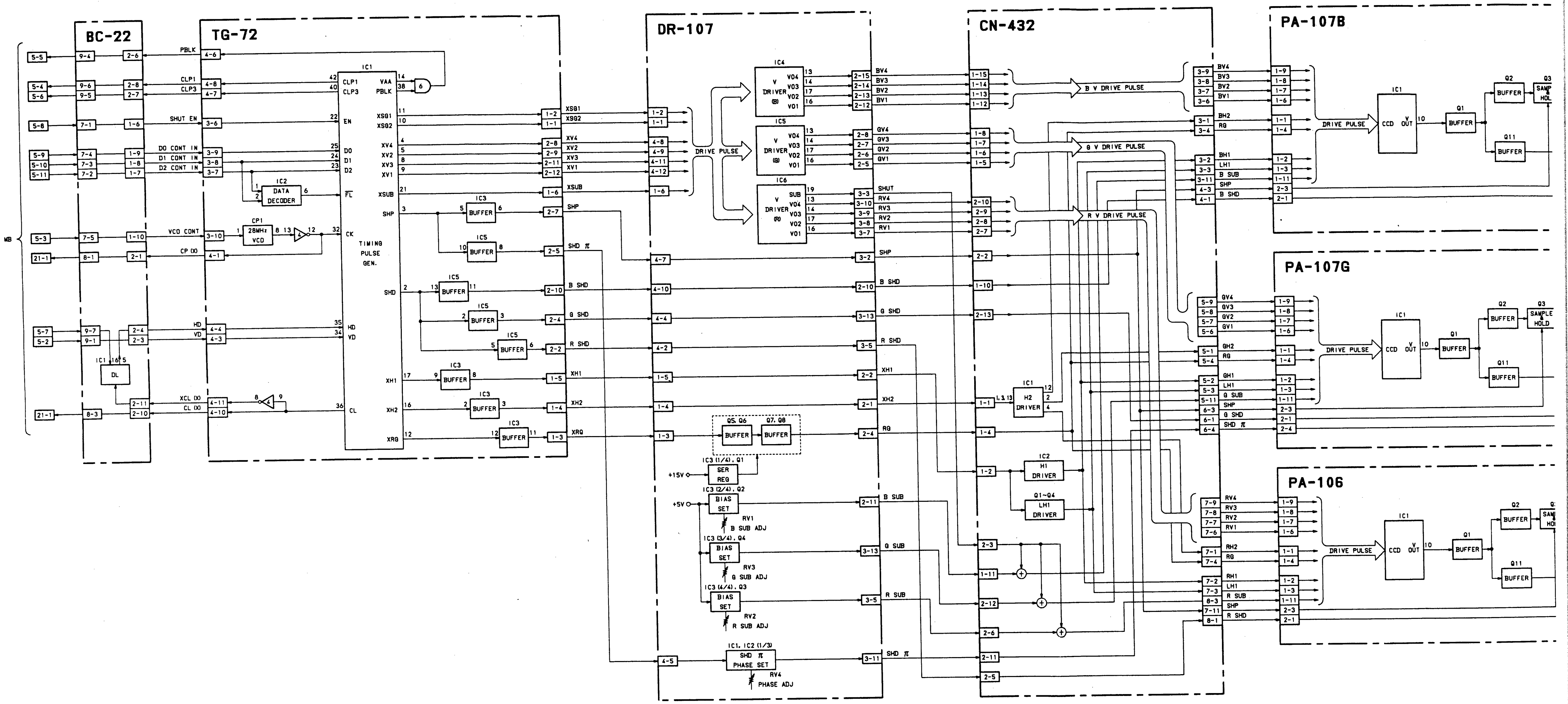

RGB
ZOOM LENS
ROTATE
5600°K
5600°K+1/8ND
3200°K
IRIS CONT
IRIS CLOSE
VTR TRIG
VF CONT
RED CCD IMAGER
GREEN CCD IMAGER
BLUE CCD IMAGER
CORRELATED DOUBLE SAMPLING
PRE AMP
R CDS VIDEO
G CDS VIDEO
B CDS VIDEO
OFFSET PHASE ADJUSTMENT
SHD
SHP
PA-106
PA-107G
PA-107B
P RED CONT
+9dB CONT
+18dB CONT
GAIN CONT
RV3 R LEVEL
TP3
VA-105 (R)
VIDEO AMP
TP4
PR-147 (R)
VIDEO PROCESSOR
R γ VIDEO
TP5 R OUT
R PR VIDEO
RV14 R PED
R DARK
RV6 R BLACK TRACKING
RV4 G LEVEL
TP7
TP8
TP9 G OUT
G γ VIDEO
G PR VIDEO
RV15 G PED
G DARK
RV7 G BLACK TRACKING
G IE VIDEO
B PED CONT
RV5 B LEVEL
TP11
TP12
TP13 B OUT
B PR VIDEO
RV16 B PED
B DARK
RV8 B BLACK TRACKING
DTL
RV17 RV SHAD
RV18 GV SHAD
RV19 BV SHAD
B GAIN CONT
R GAIN CONT
PRE BLKG
VD
CLP1
HD
PRE BLKG V CLAMP PULSE GEN
RV20 RH SHAD
RV21 GH SHAD
RV22 BH SHAD
RV13 B GAIN
RV12 R GAIN
RV1 COLOR BAR WIDTH
BLKG
BARS CONT
BARS GEN
RV9 MASTER WHITE CLIP
WHT CLIP
PED CONT
WHITE CLIP LEVEL SET
RV10 R WHITE CLIP
RV11 B WHITE CLIP
CP (28MHz)
CL (14MHz)
DTL CONT
PR-148
H/V DRIVER
DRIVER
CN-432
DR-107
(R, G, B) V DRIVE PULSE
V DRIVER
XSG1, XSG2
XV1~XV4
X SUB
SHP
SHD
SHD PHASE SET
RV4 PHASE ADJ
B SHD
G SHD
R SHD
BH1, GH1, RH1
BLH1, GLH1, RLH1
BH2, GH2, RH2
DRIVER
XH1
XH2
RG
XRG
B SUB
G SUB
R SUB
BIAS SET
+5V
RV2 R SUB ADJ
RV3 G SUB ADJ
RV4 B SUB ADJ
TIMING PLUSE GEN
28MHZ VCO
TG-72
PRE BLK G
CLP 1
SHUTE EN
SHUT D0
SHUT D1
SHUT D2
VCO CONT
CP (28MHz)
VD
HD
FLD
CL (14MHz)
BC-22
VTR
AUTO W/B BAL
WHT
BLK
DATA
VTR TRIG
W/B SW
UP ON
DOWN/OFF
SW-445
GAIN
0dB
9dB
18dB
GAIN SW
WB
PRE
WHT BAL SW
SW-446
CP (28MHz)
MOD
DELAY 1H
GAIN CONT AMP
TP1
G IE VIDEO
G γ VIDEO
G AMP
AMP
RV1 1H GAIN
TIMING PULSE GEN
TP2
RV2 2H GAIN
IE-29
CL (14MHz)
1H
2H
0H
H DTL GEN
V DTL GEN
RV3 RESOLUTION ADJ
RV4 H/V RATIO
CRISPENING
RV5 CRISPENING
TP5
GAIN CONT AMP
RV6 DTL ON/OFF
TP4
OFF
ON
S1 DTL ON/OFF
R γ VIDEO
R AMP
+18dB CONT
DTL CONT
B PR VIDEO
G PR VIDEO
R PR VIDEO
MX-18
Y MATRIX AMP
RV1 Y LEVEL
I or U MAYRIX AMP
1.5MHz LPF
I or U AMP
RV3 BURST LEVEL
RV2 BURST LEVEL
Q or V MATRIX AMP
Q or V AMP
RV4 Q/V LEVEL
TP1
340nS DELAY
CM-22
CLAMP
I or U CARRIER BALANCE
Q or V CARRIER BALANCE
CHROMA MOD
BPF
CHROMA AMP
TP3
RV3 CHROMA LEVEL
PHASE SHIFT
RV4 CHROMA OUT LEVEL
+8.5V
NTSC
PAL
INV
CHARA VIDEO (EN)
BF INV
RV6 SYNC LEVEL
LPF
SYNC INV
NTSC ONLY
SET UP PULSE GEN
RV5 SET UP LEVEL (NTSC)
SYNC
BLKG
FLD
VD
HD
SC
L ALT
BF
GENLOCK DRIVER
H/V BLKG GEN
RV8 H BLKG WIDTH
19H
20H
21H
SC PHASE SHIFT
SC PHASE CONT
ES-2
GAIN SW
WHT BAL SW
W/B SW
R PR VIDEO
B PR VIDEO
G PR VIDEO
BLKG
DIFF AMP
SAMPLE HOLD
S9 DISP
CAM
BARS
S8 BARD
D/A CONV
RV4 SC PHASE
MICRO PROCESSOR
Y MATRIX
PEAK DETECT
ABL AMP
DTL
IRIS GATE
RV2 IRIS MODE
RV3 IRIS SET
AMP
RV1 LL SET
S1 SHUTTER
S4 SC 0°/180°
OFF
ON
OPN
S2 ADJ
HD
VD
V SAW, V PAPA
H SAW, H PAPA
GEN
CHARACTOR DISPLAY GEN
+5V
S7 ZONE/MKR
S5 ZEBRA
S3 ZEBRA
AT-63
VTR TRIG


PR-148
VA-105 (R)
VA-105 (G)
VA-105 (B)
VIDEO AMP
PR-147 (R)
PR147 (G)
PR-147 (B)
VIDEO PROCESSOR
R γ VIDEO
R PR VIDEO
G γ VIDEO
G PR VIDEO
B PR VIDEO
TP3
TP4
TP5 R OUT
TP7
TP8
TP9 G OUT
TP11
TP12
TP13 B OUT
RV14 R PED
RV15 G PED
RV16 B PED
RV1 COLOR BAR WIDTH
BARS GEN
WHITE CLIP LEVEL SET
RV10 R WHITE CLIP
RV11 B WHITE CLIP
CLP1
ES-2
MX-18
Y MATRIX AMP
I or U MATRIX AMP
Q or V MATRIX AMP
1.5MHz LPF
I or U AMP
Q or V AMP
RV1 Y LEVEL
RV3 BURST LEVEL
RV2 BURST LEVEL
RV4 (Q/V) LEVEL
CM-22
CLAMP
CHROMA MOD
I or U CARRIER BALANCE
Q or V CARRIER BALANCE
BPF
CHROMA AMP
RV3 CHROMA LEVEL
PHASE SHIFT
TP1
340nS DELAY
TP2
EN VIDEO 75Ω DRIVE
COLOR
B/W
Y AMP
RV2 Y OUT LEVEL
ZEBRA IND LEVEL DET
RV1 ZEBRA LEVEL
CHROMA AMP
RV4 CHROMA OUT LEVEL
ZEBRA GEN
VBS (RM)
VBS (BNC)
VBS (CCU)
CHARACTOR VIDEO (VF)
PB VIDEO (VTR), RET VIDEO (CCU)
VF VIDEO
VF CONT
Y VIDEO
CHROMA
ZEBRA CONT
CHARA VIDEO (EN)
BF INV
RV6 SYNC LEVEL
LPF
INV
SYNC INV
NTSC ONLY
SET UP PULSE GEN
RV5 SET UP LEVEL (NTSC)
+8.5V
NTSC
PAL
SYNC
BLKG
FLD
VD
HD
H/V DRIVER
DRIVER
H/V BLKG GEN
RV8 H BLKG WIDTH
19H
20H
21H
SC
L ALT
BF
GENLOCK DRIVER
PAL ONLY
4fsc VCO
SC CONT
H PHASE SHIFT
SC PHASE SHIFT
L ALT R
INT/EXT
CK
GENLOCK DRIVER
SC BPF
TRAP
EXT SC/ SYNC SEP
GEN LOCK
SC PHASE CONT
CL (14MHz)
VCO CONT
SC 0°/180° CONT
H PHASE CONT
DRIVER
CN105 VIDEO OUT
VIEWFINDER
VIDEO AMP
H.V.DEF AMP
E.SHUT IND
GAIN UP IND
BATT IND
RES TALLY IND
CN101 REMOTE
EXT CHARA
REC TALL IND
RM S DATA
VTR TRIG
MIC
AT-63
GAIN SW
WHT BAL SW
W/B SW
R PR VIDEO
B PR VIDEO
G PR VIDEO
BLKG
DIFF AMP
SAMPLE HOLD
S9 DISP
S8 CAM BARS BARD
MICRO PROCESSOR
D/A CONV
DTL CONT
R GAIN CONT
B GAIN CONT
R DARK
G DARK
B DARK
H PHASE CONT
SC PHASE CONT
RV4 SC PHASE
RV5 H PHASE
R PED CONT
B PED CONT
MAS PED CONT
CCU/VTR CONT
OPN ADJ
S2 ADJ
S10 ABL
IRIS CLOSE
BARS CONT
SC 0°/180° CONT
SHUT EN
SHUT D0
SHUT D1
SHUT D2
BATT IND
WHT CLIP IND
RM S DATA
S DATA BATT ALARM
GAIN 9dB CONT
GAIN 18dB CONT
IRIS CONT
Y MATRIX
PEAK DETECT
ABL AMP
DTL
IRIS GATE
AMP
RV1 LL SET
RV2 IRIS MODE
RV3 IRIS SET
S1 SHUTTER
S4 SC 0°/180°
OFF
ON
V SAW, V PAPA
H SAW, V PAPA GEN
CHARACTOR DISPLAY GEN
CHARA VIDEO (VF)
CHARA BLKG
CHARA VIDEO (EN)
S7 ZONE/MKR
+5V
MKR
ZONE
ZEBRA CONT
S5 ZEBRA
S3 ZEBRA
REC REVIEW CONT
EXT CHARA
DRIVER
+12V
TO CAMERA ADAPTOR CA-327 (SOPin CN)
REC TALLY IND
VTR TRIG
VTR CCU CONT
S DATA BATT ALARM
REC REVIEW CONT
CN104 OPTION
VF CONT
+5.6V SET
IRIS CLOSE
IRIS CONT
VTR TRIG
IRIS CLOSE
VF CONT
IE-29
MOD
DELAY 1H
GAIN CONT AMP
AMP
TP1
G IE VIDEO
RV1 1H GAIN
TP2
RV2 2H GAIN
1H
2H
0H
H DTL GEN
V DTL GEN
RV3 RESOLUTION ADJ
RV4 H/V RATIO
CRISPENING
RV5 CRISPENING
TP5
GAIN CONT AMP
TP4
S1 DTL ON/OFF
RV6 DTL ON/OFF
DTL
VTR TRIG
1
2
3
4
5
6
A-2
A-3
D
E
F
G
H
I

OVERALL BLOCK

DXC-327 (J, UC)
DXC-327P (EK)

CCD BLOCK


BC-22
TG-72
DR-107
CN-432
PA-107B
PA-107G
PA-106
MB
PBLK
CLP1
CLP3
SHUT EN
D0 CONT IN
D1 CONT IN
D2 CONT IN
VCO CONT
CP
HD
VD
XCL
CL
IC1
TIMING PULSE GEN.
IC2 DATA DECODER
CP1 28MHz VCO
IC1 DL
XSG1
XSG2
XV4
XV2
XV3
XV1
XSUB
SHP
SHD π
B SHD
G SHD
R SHD
XH1
XH2
XRG
IC3 BUFFER
IC5 BUFFER
DRIVE PULSE
IC4 V DRIVER (B)
IC5 V DRIVER (G)
IC6 V DRIVER (R)
BV4
BV3
BV2
BV1
GV4
GV3
GV2
GV1
SHUT
RV4
RV3
RV2
RV1
Q5, Q6 BUFFER
Q7, Q8 BUFFER
RG
IC3 (1/4), Q1 SER REG
+15V
+5V
IC3 (2/4), Q2 BIAS SET
RV1 B SUB ADJ
IC3 (3/4), Q4 BIAS SET
RV3 G SUB ADJ
IC3 (4/4), Q3 BIAS SET
RV2 R SUB ADJ
B SUB
G SUB
R SUB
IC1, IC2 (1/3) SHD π PHASE SET
RV4 PHASE ADJ
B V DRIVE PULSE
G V DRIVE PULSE
R V DRIVE PULSE
IC1 H2 DRIVER
IC2 H1 DRIVER
Q1-Q4 LH1 DRIVER
BH2
BH1
LH1
GH2
GH1
RH2
RH1
CCD V OUT
Q1 BUFFER
Q2 BUFFER
Q3 SAMPLE HOLD
Q11 BUFFER

1

2

3

4

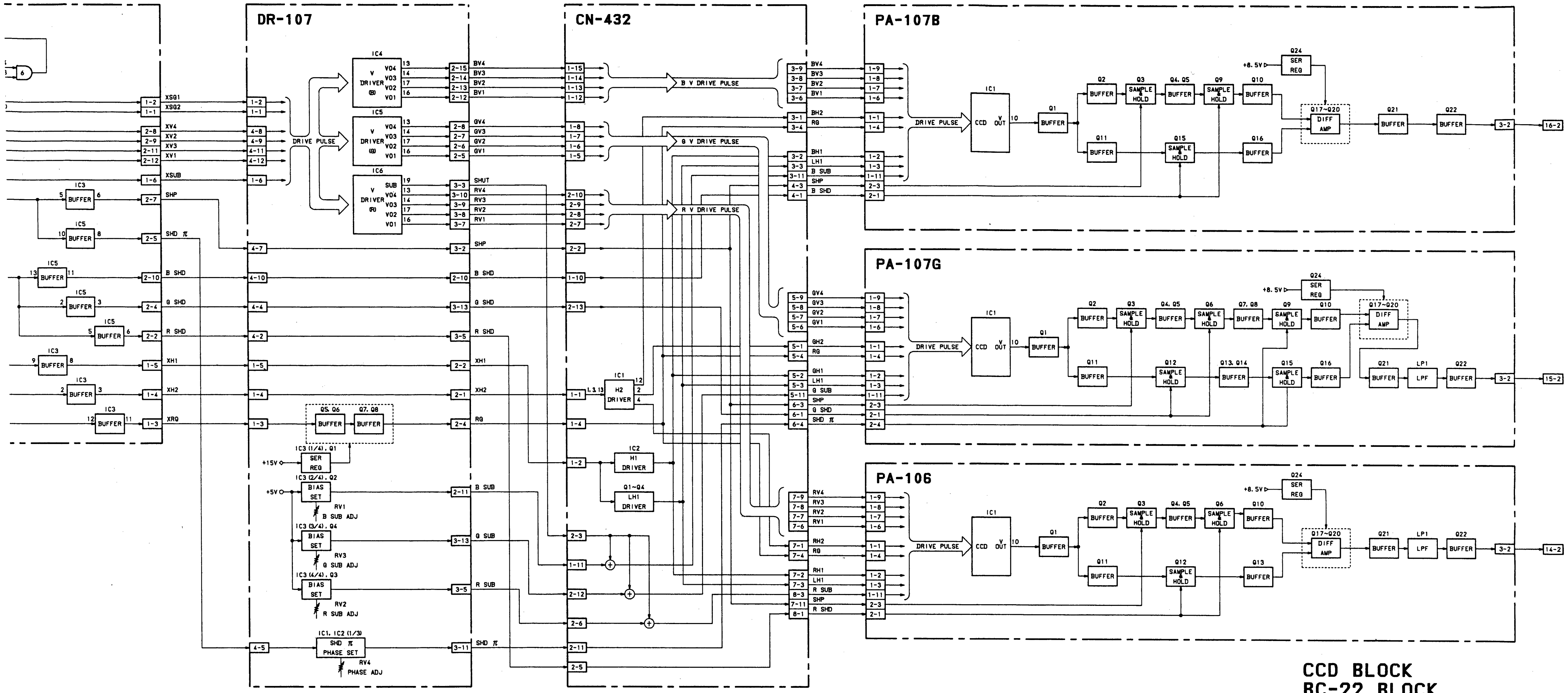
5

6

A-4

A-5

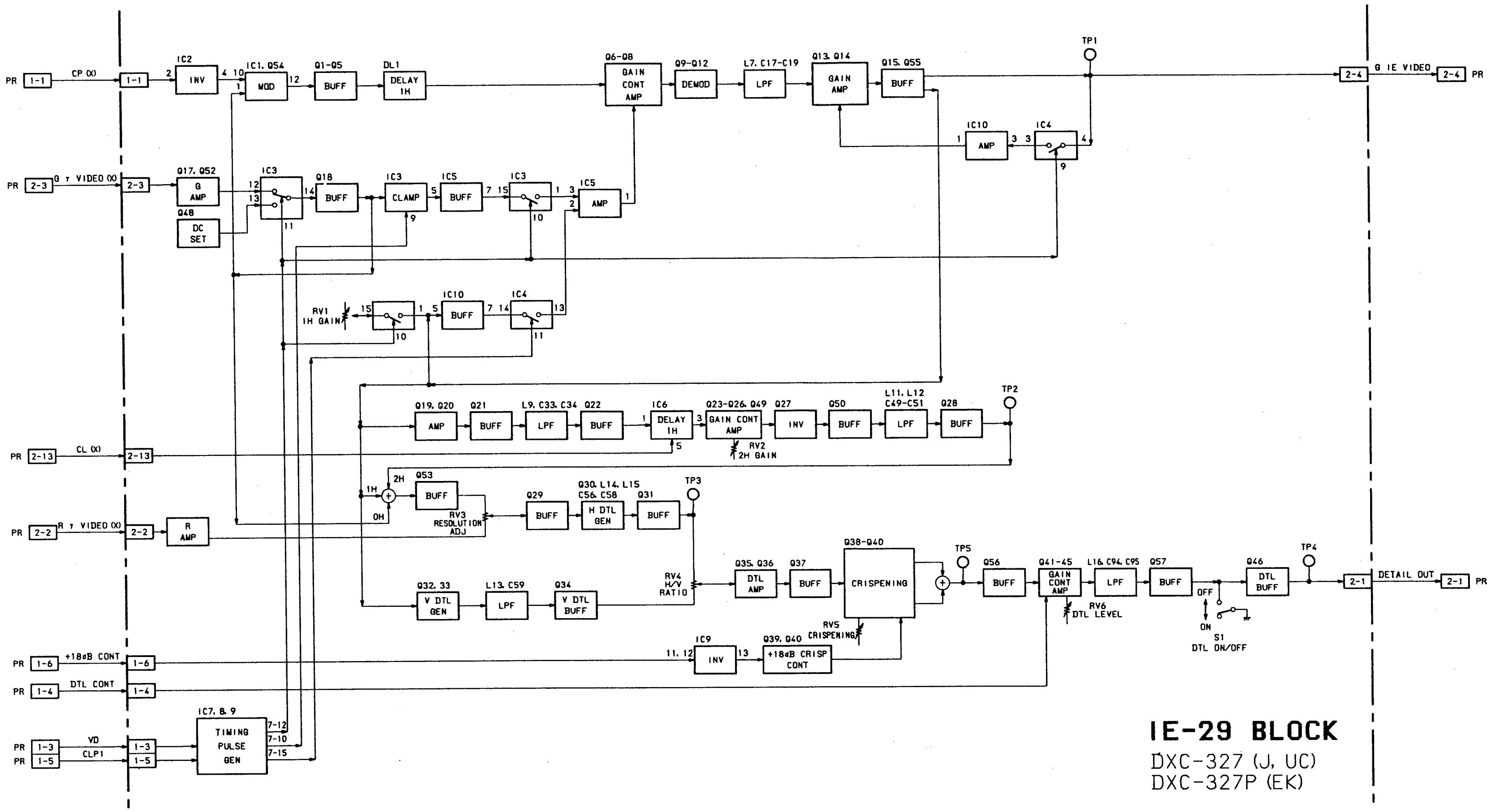
A B C D E F


DR-107
CN-432
PA-107B
PA-107G
PA-106
IC4 V DRIVER (B)
IC5 V DRIVER (G)
IC6 V DRIVER (R)
DRIVE PULSE
B V DRIVE PULSE
G V DRIVE PULSE
R V DRIVE PULSE
IC1 H2 DRIVER
IC2 H1 DRIVER
Q1-Q4 LH1 DRIVER
IC3 (1/4), Q1 SER REG
IC3 (2/4), Q2 BIAS SET
RV1 B SUB ADJ
IC3 (3/4), Q4 BIAS SET
RV3 G SUB ADJ
IC3 (4/4), Q3 BIAS SET
RV2 R SUB ADJ
IC1, IC2 (1/3) SHD π PHASE SET
RV4 PHASE ADJ
Q5, Q6 BUFFER
Q7, Q8 BUFFER
+15V
+5V
IC3 BUFFER
IC5 BUFFER
XSG1
XSG2
XV4
XV2
XV3
XV1
XSUB
SHP
SHD π
B SHD
G SHD
R SHD
XH1
XH2
XRG
BV4
BV3
BV2
BV1
GV4
GV3
GV2
GV1
SHUT
RV4
RV3
RV2
RV1
B SUB
G SUB
R SUB
BH2
RG
BH1
LH1
GH2
GH1
RH2
RH1
IC1 CCD V OUT
Q1 BUFFER
Q2 BUFFER
Q3 SAMPLE & HOLD
Q4, Q5 BUFFER
Q6 SAMPLE & HOLD
Q7, Q8 BUFFER
Q9 SAMPLE & HOLD
Q10 BUFFER
Q11 BUFFER
Q12 SAMPLE & HOLD
Q13, Q14 BUFFER
Q15 SAMPLE & HOLD
Q16 BUFFER
Q13 BUFFER
Q17-Q20 DIFF AMP
Q21 BUFFER
LP1 LPF
Q22 BUFFER
Q24 SER REG
+8.5V
16-2
15-2
14-2

CCD BLOCK
BC-22 BLOCK
TG-72 BLOCK
DR-107 BLOCK
CN-432 BLOCK
PR-107B/107G/106 BLOCK

DXC-327 (J, UC)
DXC-327P (EK)

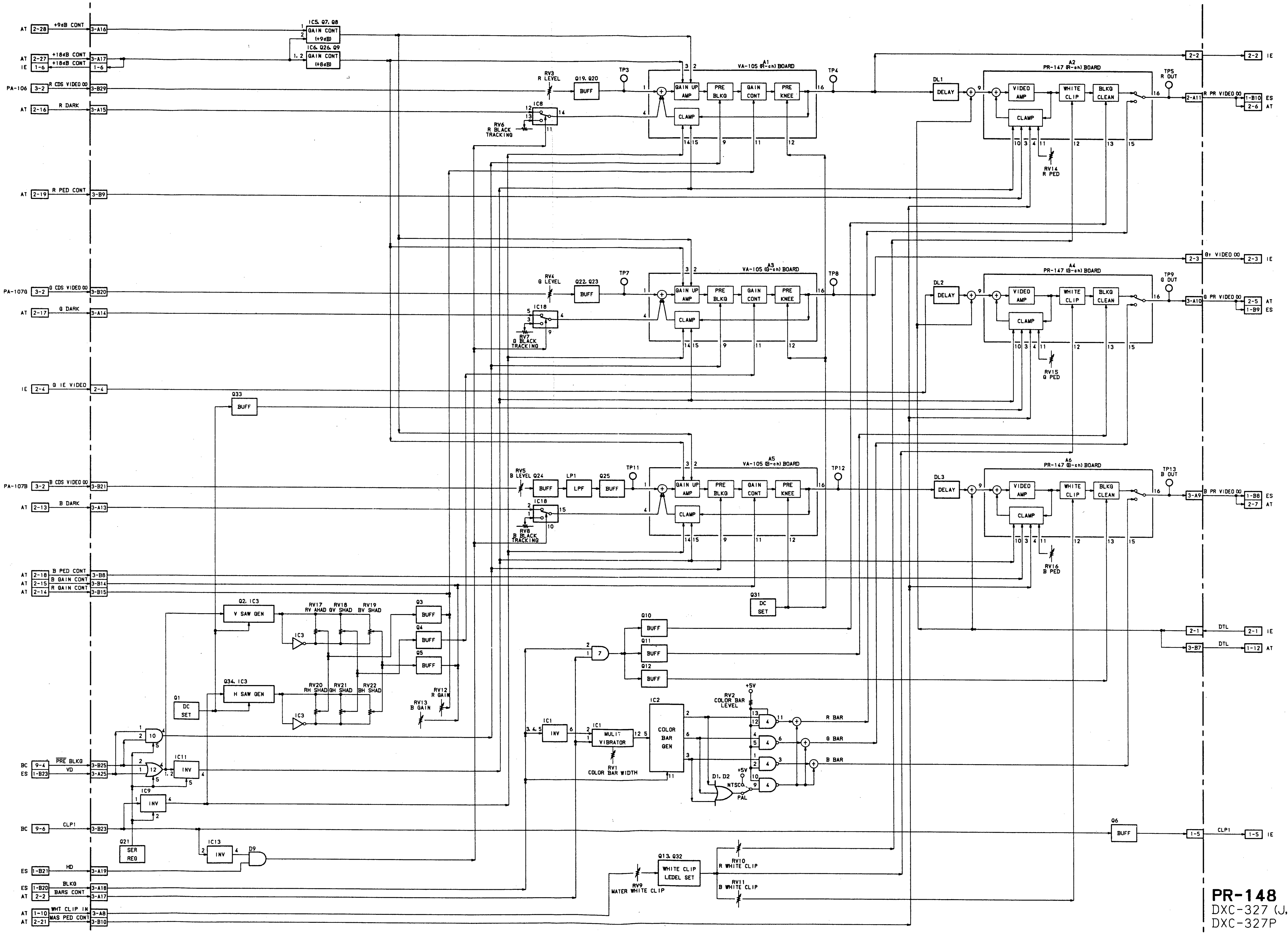
IE-29 BLOCK


PR
1-1
CP (X)
1-1
IC2
INV
2
4
10
1
IC1, Q54
MOD
12
Q1-Q5
BUFF
DL1
DELAY 1H
Q6-Q8
GAIN CONT AMP
Q9-Q12
DEMOD
L7, C17-C19
LPF
Q13, Q14
GAIN AMP
Q15, Q55
BUFF
TP1
2-4
G IE VIDEO
2-4
PR
IC10
AMP
1
3
IC4
3
4
9
PR
2-3
G γ VIDEO (X)
2-3
Q17, Q52
G AMP
Q48
DC SET
IC3
12
13
14
11
Q18
BUFF
IC3
CLAMP
9
5
IC5
BUFF
7
15
IC3
10
1
3
2
IC5
AMP
1
RV1
1H GAIN
15
10
1
5
IC10
BUFF
7
14
IC4
13
11
Q19, Q20
AMP
Q21
BUFF
L9, C33, C34
LPF
Q22
BUFF
IC6
1
DELAY 1H
3
5
Q23-Q26, Q49
GAIN CONT AMP
RV2
2H GAIN
Q27
INV
Q50
BUFF
L11, L12
C49-C51
LPF
Q28
BUFF
TP2
PR
2-13
CL (X)
2-13
1H
2H
0H
Q53
BUFF
RV3
RESOLUTION ADJ
Q29
BUFF
Q30, L14, L15
C56, C58
H DTL GEN
Q31
BUFF
TP3
PR
2-2
R γ VIDEO (X)
2-2
R AMP
Q32, 33
V DTL GEN
L13, C59
LPF
Q34
V DTL BUFF
RV4
H/V RATIO
Q35, Q36
DTL AMP
Q37
BUFF
Q38-Q40
CRISPENING
TP5
Q56
BUFF
Q41-45
GAIN CONT AMP
RV6
DTL LEVEL
L16, C94, C95
LPF
Q57
BUFF
OFF
ON
S1
DTL ON/OFF
Q46
DTL BUFF
TP4
2-1
DETAIL OUT
2-1
PR
RV5
CRISPENING
IC9
11, 12
INV
13
Q39, Q40
+18dB CRISP CONT
PR
1-6
+18dB CONT
1-6
PR
1-4
DTL CONT
1-4
IC7, 8, 9
TIMING PULSE GEN
7-12
7-10
7-15
PR
1-3
VD
1-3
PR
1-5
CLP1
1-5

IE-29 BLOCK

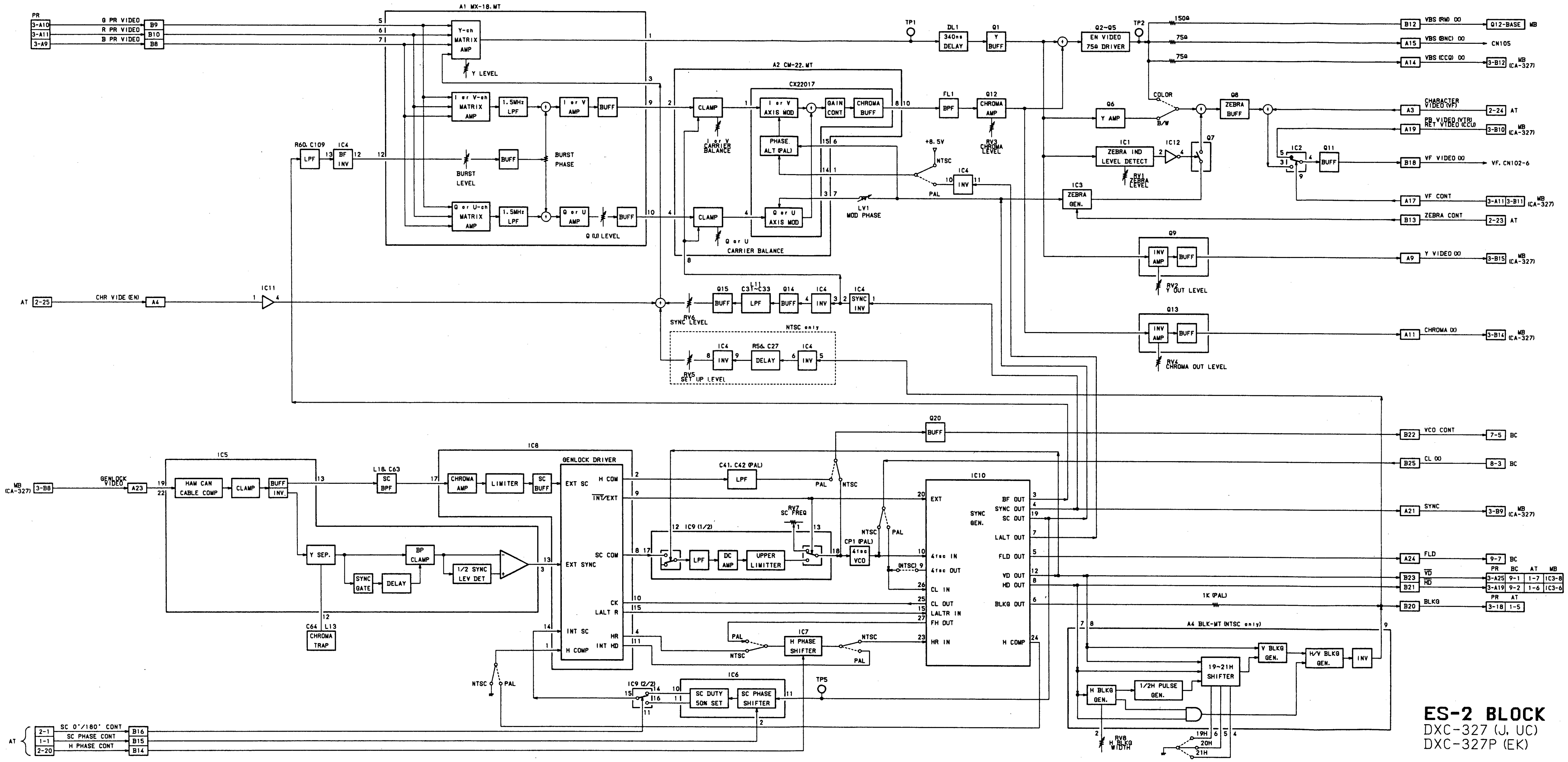
DXC-327 (J, UC)
DXC-327P (EK)

PR-148 BLOCK


1
2
3
4
5
6
AT 2-28 +9dB CONT 3-A16
AT 2-27 +18dB CONT 3-A17
IE 1-6 +18dB CONT 1-6
PA-106 3-2 R CDS VIDEO 3-B29
AT 2-16 R DARK 3-A15
AT 2-19 R PED CONT 3-B9
PA-107G 3-2 G CDS VIDEO 3-B20
AT 2-17 G DARK 3-A14
IE 2-4 G IE VIDEO 2-4
PA-107B 3-2 B CDS VIDEO 3-B21
AT 2-13 B DARK 3-A13
AT 2-18 B PED CONT 3-B8
AT 2-15 B GAIN CONT 3-B14
AT 2-14 R GAIN CONT 3-B15
BC 9-4 PRE BLKG 3-B25
ES 1-B23 VD 3-A25
BC 9-6 CLP1 3-B23
ES 1-B21 HD 3-A19
ES 1-B20 BLKG 3-A18
AT 2-2 BARS CONT 3-A17
AT 1-10 WHT CLIP IN 3-A8
AT 2-21 MAS PED CONT 3-B10
IC5, Q7, Q8 GAIN CONT (+9dB)
IC6, Q26, Q9 GAIN CONT (+18dB)
RV3 R LEVEL
Q19, Q20 BUFF
TP3
IC8
RV6 R BLACK TRACKING
A1 VA-105 (R-ch) BOARD
GAIN UP AMP
PRE BLKG
GAIN CONT
PRE KNEE
CLAMP
TP4
DL1 DELAY
A2 PR-147 (R-ch) BOARD
VIDEO AMP
WHITE CLIP
BLKG CLEAN
TP5 R OUT
RV14 R PED
2-2 IE
3-A11 R PR VIDEO 1-B10 ES 2-6 AT
RV4 G LEVEL
Q22, Q23 BUFF
TP7
IC18
RV7 G BLACK TRACKING
A3 VA-105 (G-ch) BOARD
TP8
DL2 DELAY
A4 PR-147 (G-ch) BOARD
TP9 G OUT
RV15 G PED
2-3 G IE VIDEO 2-3 IE
3-A10 G PR VIDEO 2-5 AT 1-B9 ES
Q33 BUFF
RV5 B LEVEL
Q24 BUFF
LP1 LPF
Q25 BUFF
TP11
IC18
RV8 B BLACK TRACKING
A5 VA-105 (B-ch) BOARD
TP12
DL3 DELAY
A6 PR-147 (B-ch) BOARD
TP13 B OUT
RV16 B PED
3-A9 B PR VIDEO 1-B8 ES 2-7 AT
Q31 DC SET
Q2, IC3 V SAW GEN
RV17 RV AHAD
RV18 GV SHAD
RV19 BV SHAD
Q3 BUFF
Q4 BUFF
Q5 BUFF
Q34, IC3 H SAW GEN
RV20 RH SHAD
RV21 GH SHAD
RV22 BH SHAD
RV12 R GAIN
RV13 B GAIN
Q1 DC SET
IC3
IC11 INV
IC9 INV
Q21 SER REG
IC13 INV
D9
Q10 BUFF
Q11 BUFF
Q12 BUFF
IC1 INV
IC1 MULTI VIBRATOR
RV1 COLOR BAR WIDTH
IC2 COLOR BAR GEN
RV2 COLOR BAR LEVEL
+5V
R BAR
G BAR
B BAR
D1, D2
NTSC
PAL
Q13, Q32 WHITE CLIP LEDEL SET
RV9 MATER WHITE CLIP
RV10 R WHITE CLIP
RV11 B WHITE CLIP
2-1 DTL 2-1 IE
3-B7 DTL 1-12 AT
Q6 BUFF
1-5 CLP1 1-5 IE

PR-148 BLOCK
DXC-327 (J, UC)
DXC-327P (EK)

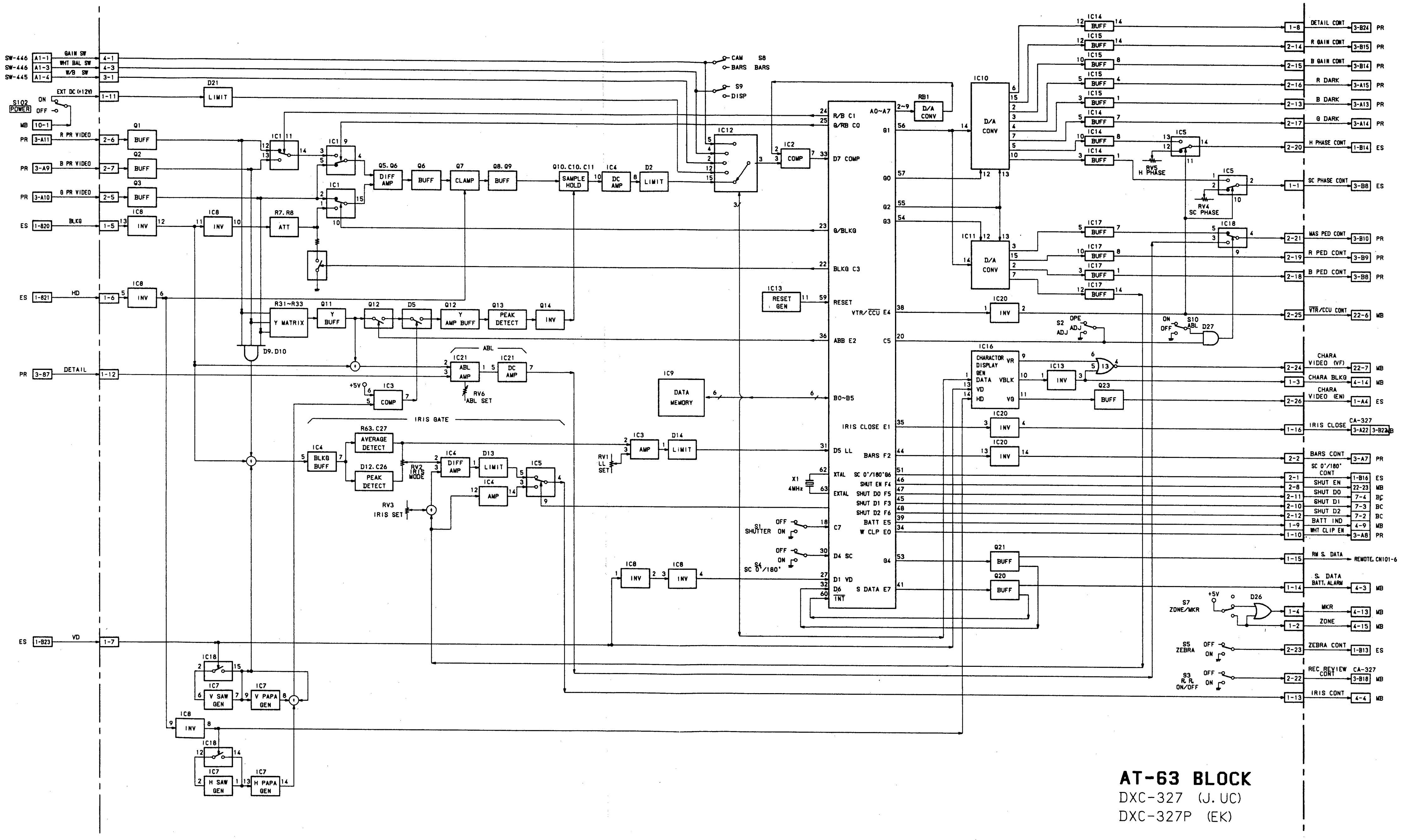
ES-2 BLOCK



A1 MX-18.MT
G PR VIDEO
R PR VIDEO
B PR VIDEO
Y-ch MATRIX AMP
Y LEVEL
I or V-ch MATRIX AMP
Q or U-ch MATRIX AMP
1.5MHz LPF
I or V AMP
Q or U AMP
BUFF
BURST LEVEL
BURST PHASE
Q (U) LEVEL
A2 CM-22.MT
CX22017
CLAMP
I or V AXIS MOD
Q or U AXIS MOD
GAIN CONT
CHROMA BUFF
PHASE ALT (PAL)
I or V CARRIER BALANCE
Q or U CARRIER BALANCE
LV1 MOD PHASE
TP1
DL1 340ns DELAY
Q1 Y BUFF
FL1 BPF
Q12 CHROMA AMP
RV3 CHROMA LEVEL
Q2–Q5 EN VIDEO 75Ω DRIVER
TP2
Q6 Y AMP
COLOR
B/W
Q8 ZEBRA BUFF
IC1 ZEBRA IND LEVEL DETECT
RV1 ZEBRA LEVEL
IC12
Q7
IC2
Q11
IC3 ZEBRA GEN.
Q9 INV AMP
RV2 Y OUT LEVEL
Q13 INV AMP
RV4 CHROMA OUT LEVEL
VBS (RM) OO
VBS (BNC) OO
VBS (CCQ) OO
CHARACTER VIDEO (VF)
PB VIDEO (VTR) RET VIDEO (CCU)
VF VIDEO OO
VF CONT
ZEBRA CONT
Y VIDEO OO
CHROMA OO
Q12-BASE
CN105
VF. CN102-6
CHR VIDE (EN)
IC11
Q15 BUFF
L11 C31–C33 LPF
Q14 BUFF
IC4 INV
IC4 SYNC INV
RV6 SYNC LEVEL
NTSC only
RV5 SET UP LEVEL
R56, C27 DELAY
R60, C109 LPF
IC4 BF INV
GENLOCK VIDEO
IC5
HAM CAN CABLE COMP
CLAMP
BUFF INV
Y SEP.
SYNC GATE
DELAY
BP CLAMP
1/2 SYNC LEV DET
C64 L13 CHROMA TRAP
L18, C63 SC BPF
IC8
GENLOCK DRIVER
CHROMA AMP
LIMITER
SC BUFF
EXT SC
H COM
INT/EXT
SC COM
EXT SYNC
CK
LALT R
INT SC
HR
H COMP
INT HD
C41, C42 (PAL) LPF
IC9 (1/2)
DC AMP
UPPER LIMITTER
RV7 SC FREQ
CP1 (PAL) 4fsc VCO
Q20 BUFF
IC7 H PHASE SHIFTER
IC9 (2/2)
IC6
SC DUTY 50% SET
SC PHASE SHIFTER
TP5
IC10
EXT
SYNC GEN.
BF OUT
SYNC OUT
SC OUT
LALT OUT
4fsc IN
4fsc OUT
FLD OUT
CL IN
VD OUT
HD OUT
CL OUT
LALTR IN
FH OUT
BLKG OUT
HR IN
H COMP
PAL
NTSC
+8.5V
VCO CONT
CL OO
SYNC
FLD
VD
HD
BLKG
1K (PAL)
A4 BLK-MT (NTSC only)
V BLKG GEN.
H/V BLKG GEN.
INV
19–21H SHIFTER
1/2H PULSE GEN.
H BLKG GEN.
RV8 H BLKG WIDTH
19H
20H
21H
SC 0°/180° CONT
SC PHASE CONT
H PHASE CONT
PR
AT
MB
BC
(CA-327)

ES-2 BLOCK
DXC-327 (J, UC)
DXC-327P (EK)

AT-63 BLOCK


1
2
3
4
5
6
SW-446 A1-1 GAIN SW 4-1
SW-446 A1-3 WHT BAL SW 4-3
SW-445 A1-4 W/B SW 3-1
S102 POWER ON OFF EXT DC (+12V) 1-11
MB 10-1
PR 3-A11 R PR VIDEO 2-6 Q1 BUFF
PR 3-A9 B PR VIDEO 2-7 Q2 BUFF
PR 3-A10 G PR VIDEO 2-5 Q3 BUFF
ES 1-B20 BLKG 1-5 IC8 INV
ES 1-B21 HD 1-6 IC8 INV
PR 3-B7 DETAIL 1-12
ES 1-B23 VD 1-7
D21 LIMIT
IC1
IC8 INV
R7, R8 ATT
Q5, Q6 DIFF AMP
Q6 BUFF
Q7 CLAMP
Q8, Q9 BUFF
Q10, C10, C11 SAMPLE HOLD
IC4 DC AMP
D2 LIMIT
R31~R33 Y MATRIX
D9, D10
Q11 Y BUFF
Q12
D5
Q12 Y AMP BUFF
Q13 PEAK DETECT
Q14 INV
ABL
IC21 ABL AMP
IC21 DC AMP
RV6 ABL SET
+5V IC3 COMP
IRIS GATE
IC4 BLKG BUFF
R63, C27 AVERAGE DETECT
D12, C26 PEAK DETECT
RV2 IRIS MODE
IC4 DIFF AMP
D13 LIMIT
IC4 AMP
IC5
RV3 IRIS SET
IC3 AMP
D14 LIMIT
RV1 LL SET
IC9 DATA MEMORY
IC8 INV
IC8 INV
IC18
IC7 V SAW GEN
IC7 V PAPA GEN
IC8 INV
IC18
IC7 H SAW GEN
IC7 H PAPA GEN
S8 CAM BARS BARS
S9 DISP
IC12
IC2 COMP
IC13 RESET GEN
X1 4MHz
S1 SHUTTER OFF ON
S4 SC 0°/180° OFF ON
R/B C1
G/RB C0
D7 COMP
G/BLKG
BLKG C3
RESET
ABB E2
B0~B5
D5 LL
XTAL
EXTAL
C7
D4 SC
D1 VD
D6
TNT
A0~A7
G1
G0
G2
G3
VTR/CCU E4
C5
IRIS CLOSE E1
BARS F2
SC 0°/180° G6
SHUT EN F4
SHUT D0 F5
SHUT D1 F3
SHUT D2 F6
BATT E5
W CLP E0
G4
S DATA E7
RB1 D/A CONV
IC10 D/A CONV
IC11 D/A CONV
IC14 BUFF
IC15 BUFF
IC17 BUFF
IC5
RV5 H PHASE
RV4 SC PHASE
IC20 INV
S2 DPE ADJ
S10 ON OFF ABL
D27
IC16 CHARACTOR DISPLAY GEN
VR DATA VBLK VD HD VG
IC13 INV
IC13
Q23 BUFF
IC20 INV
IC20 INV
Q21 BUFF
Q20 BUFF
S7 ZONE/MKR +5V
D26
S5 ZEBRA OFF ON
S3 R. R. ON/OFF OFF ON
1-8 DETAIL CONT 3-B24 PR
2-14 R GAIN CONT 3-B15 PR
2-15 B GAIN CONT 3-B14 PR
2-16 R DARK 3-A15 PR
2-13 B DARK 3-A13 PR
2-17 G DARK 3-A14 PR
2-20 H PHASE CONT 1-B14 ES
1-1 SC PHASE CONT 3-B8 ES
2-21 MAS PED CONT 3-B10 PR
2-19 R PED CONT 3-B9 PR
2-18 B PED CONT 3-B8 PR
2-25 VTR/CCU CONT 22-6 MB
2-24 CHARA VIDEO (VF) 22-7 MB
1-3 CHARA BLKG 4-14 MB
2-26 CHARA VIDEO (EN) 1-A4 ES
1-16 IRIS CLOSE CA-327 3-A22 3-B23 MB
2-2 BARS CONT 3-A7 PR
SC 0°/180° CONT
2-1 SHUT EN 1-B16 ES
2-8 SHUT D0 22-23 MB
2-11 SHUT D1 7-4 BC
2-10 SHUT D2 7-3 BC
2-12 BATT IND 7-2 BC
1-9 WHT CLIP EN 4-9 MB
1-10 3-A8 PR
1-15 RM S. DATA REMOTE, CN101-6
1-14 S. DATA BATT. ALARM 4-3 MB
1-4 MKR 4-13 MB
1-2 ZONE 4-15 MB
2-23 ZEBRA CONT 1-B13 ES
2-22 REC REVIEW CONT CA-327 3-B18 MB
1-13 IRIS CONT 4-4 MB

AT-63 BLOCK
DXC-327 (J, UC)
DXC-327P (EK)

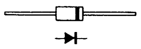
SECTION B
SEMICONDUCTOR

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

TYPE	PAGE
1S1585	B-2
1S2836	B-2
1SS226	B-2
1SS97	B-2
2SA1162	B-2
2SA1226	B-2
2SA1462	B-2
2SB798	B-2
2SC1623	B-2
2SC2757	B-2
2SC3617	B-2
2SC3735	B-2
2SD999	B-2
2SK94	B-2
3SK163	B-2
74AC08SJ	B-3
BX1340	B-3
CX22017	B-3
CXD1217M	B-3
CXD1250M	B-4
CXD1255Q	B-5
CXD8095Q	B-6
CXD8154M	B-7
CXL5504M	B-7
DTA114YK	B-2
DTC114YK	B-2
HZ ?BLL	B-2
LM2903M	B-7
M6M80011L	B-7
MA152WK	B-2
MB88342PF	B-8
MC14001BF	B-8
MC14051BF	B-8
MC14053BF	B-8
MC14069UBF	B-8
MC14557BF	B-8
NJM062M	B-9
NJM319M	B-9
RC1496M	B-9
RD ? ?M-B ?	B-2
SC14S81F	B-9
SC7SU04F	B-9

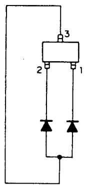
TYPE	PAGE
SN74HC02NS	B-9
SN74HC04NS	B-9
SN74HC08NS	B-3
SN74HC174NS	B-10
SN74HC27NS	B-10
SN74LS221NS	B-10
TC4069UBF	B-8
TC40H000F	B-10
TC40H027F	B-10
TC40H076AF	B-10
TC40H193F	B-11
TC4S01F	B-11
TC4S11F	B-11
TC4S30F	B-11
TC4S71F	B-11
TC4S81F	B-9
TC4SU69F	B-11
TC74AC04F	B-9
TL062CPS	B-9
TL064CNS	B-11
TL082CPS	B-12
uPC311G2	B-12
uPC324G2	B-12
uPD6142G-101	B-12
XN4601	B-2
XN4608	B-2
XN6401	B-2
XN6435	B-2
XN6501	B-2
XN6534	B-2

DIODE, TRANSISTOR



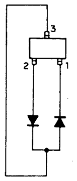
1S1585

(SCALE 4/1)
TOP VIEW

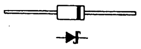


1S2836

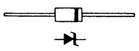
(SCALE 4/1)
TOP VIEW



1SS226

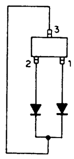


1SS97



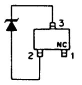
HZ ?BLL

(SCALE 4/1)
TOP VIEW



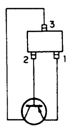
MA152WK

(SCALE 4/1)
TOP VIEW



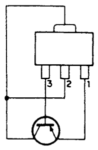
RD ? ?M-B ?

(SCALE 4/1)
TOP VIEW



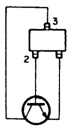
2SA1162
2SA1226
2SA1462

(SCALE 4/1)
TOP VIEW



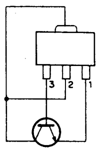
2SB798

(SCALE 4/1)
TOP VIEW



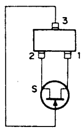
2SC1623
2SC2757
2SC3735

TOP VIEW (SCALE 4/1)



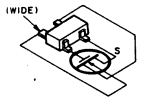
2SC3617
2SD999

TOP VIEW (SCALE 4/1)



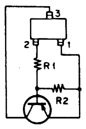
2SK94

(SCALE 3/1)



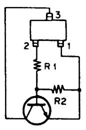
3SK163

TOP VIEW (SCALE 4/1)



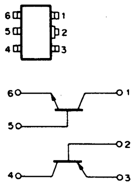
DTA114YK (R1 = 10K, R2 = 47K)

TOP VIEW (SCALE 4/1)



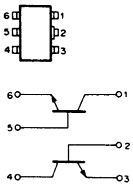
DTC114YK (R1 = 10K, R2 = 47K)

(SCALE 6/1)
TOP VIEW



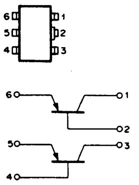
XN4601

(SCALE 6/1)
TOP VIEW



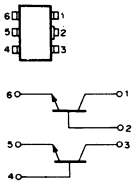
XN4608

(SCALE 6/1)
TOP VIEW



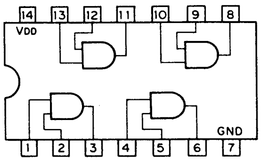
XN6401
XN6435

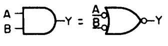
(SCALE 6/1)
TOP VIEW



XN6501
XN6534

74AC08SJ (NS) FLAT PACKAGE
SN74HC08NS (TI) FLAT PACKAGE
C-MOS QUAD 2-INPUT AND GATE
– TOP VIEW –


14
13
12
11
10
9
8
VDD
GND
1
2
3
4
5
6
7



$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

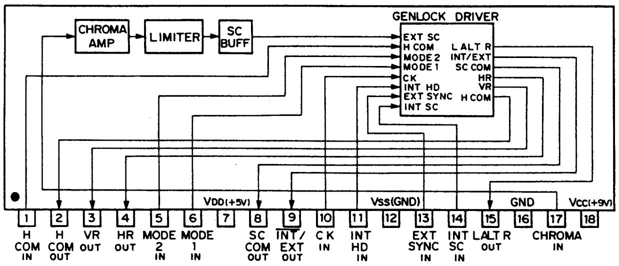
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL

NOTE :

TYPE	VDD
TC74AC08F	+2 to +5.5V
OTHER TYPES	+2 to +6V

BX1340 (SONY)
SC LIMITER AND GENLOCK DRIVER
– REAR VIEW –

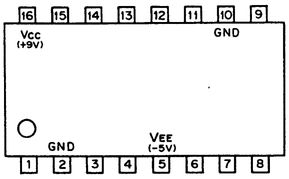

CHROMA AMP
LIMITER
SC BUFF
GENLOCK DRIVER
EXT SC
H COM
MODE 2
MODE 1
CK
INT HD
EXT SYNC
INT SC
L ALT R
INT/EXT
SC COM
HR
VR
H COM
VDD(+5V)
VSS(GND)
GND
VCC(+9V)
1 H COM IN
2 H COM OUT
3 VR OUT
4 HR OUT
5 MODE 2 IN
6 MODE 1 IN
7
8 SC COM OUT
9 INT/EXT OUT
10 CK IN
11 INT HD IN
12
13 EXT SYNC IN
14 INT SC IN
15 LALT R OUT
16
17 CHROMA IN
18

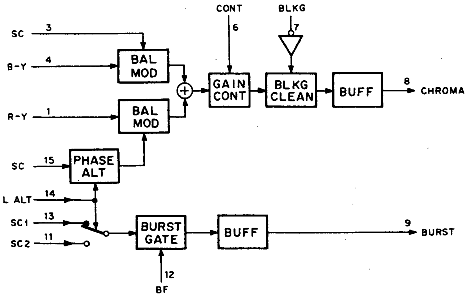
MODE SELECTION

MODE 1	MODE 2	MODE
1	1	NTSC
0	0	PAL

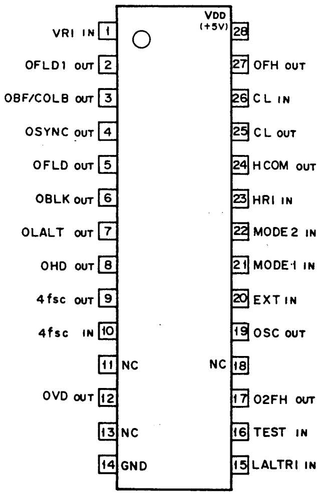
0 ; LOW LEVEL
1 ; HIGH LEVEL

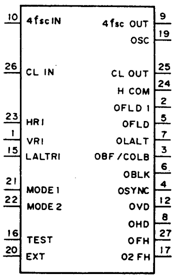
CX22017 (SONY)
VIDEO SIGNAL PROCESSOR
– TOP VIEW –


16
15
14
13
12
11
10
9
Vcc (+9V)
GND
GND
VEE (-5V)
1
2
3
4
5
6
7
8


SC 3
B-Y 4
R-Y 1
BAL MOD
BAL MOD
CONT 6
BLKG 7
GAIN CONT
BLKG CLEAN
BUFF
8 CHROMA
SC 15
PHASE ALT
L ALT 14
SC1 13
SC2 11
BURST GATE
BUFF
9 BURST
12 BF

CXD1217M (SONY) FLAT PACKAGE
C-MOS SYNC GENERATOR
– TOP VIEW –

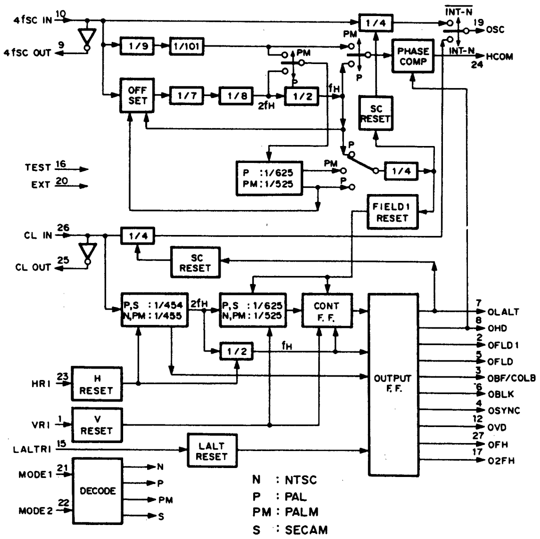

VRI IN 1
OFLD1 OUT 2
OBF/COLB OUT 3
OSYNC OUT 4
OFLD OUT 5
OBLK OUT 6
OLALT OUT 7
OHD OUT 8
4fsc OUT 9
4fsc IN 10
11 NC
OVD OUT 12
13 NC
14 GND
VDD (+5V) 28
27 OFH OUT
26 CL IN
25 CL OUT
24 HCOM OUT
23 HRI IN
22 MODE 2 IN
21 MODE 1 IN
20 EXT IN
19 OSC OUT
NC 18
17 O2FH OUT
16 TEST IN
15 LALTRI IN


10 4fscIN
26 CL IN
23 HRI
1 VRI
15 LALTRI
21 MODE 1
22 MODE 2
16 TEST
20 EXT
4fsc OUT 9
OSC 19
CL OUT 25
H COM 24
OFLD 1 2
OFLD 5
OLALT 7
OBF/COLB 3
OBLK 6
OSYNC 4
OVD 12
OHD 8
OFH 27
O2 FH 17

SYSTEM	4fsc	CLOCK
NTSC	910fH	910fH
PAL	1135fH+2fV	908fH
PALM	909fH	910fH
SECAM	—	908fH

INPUT		SYSTEM
MODE1	MODE2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

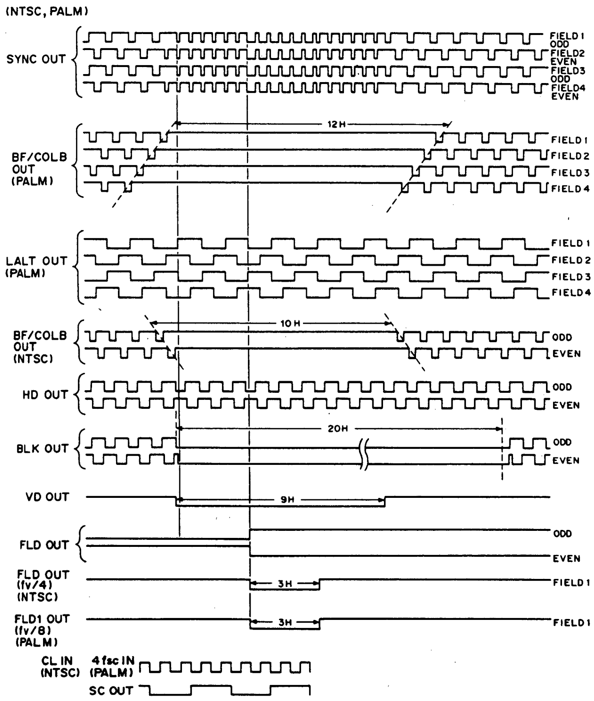
0 ; LOW LEVEL
1 ; HIGH LEVEL

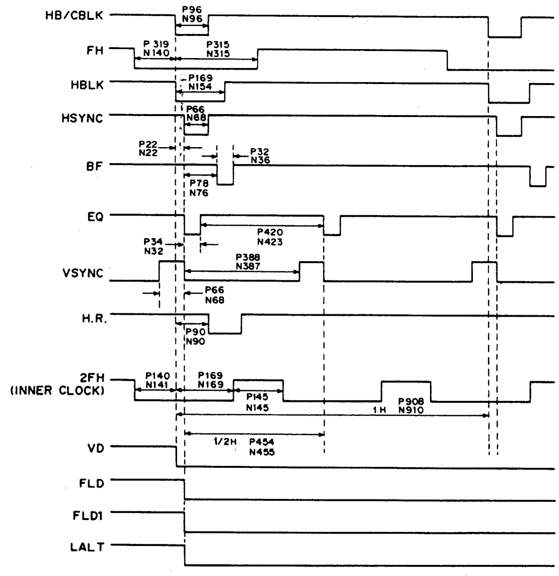

4fsc IN 10
4fsc OUT 9
1/9
1/101
1/4
PM
P
PHASE COMP
INT-N
19 OSC
INT-N
HCOM 24
OFF SET
1/7
1/8
2fH
1/2
fH
SC RESET
TEST 16
EXT 20
P :1/625
PM :1/525
1/4
FIELD1 RESET
CL IN 26
CL OUT 25
1/4
SC RESET
P,S :1/454
N,PM :1/455
2fH
P,S :1/625
N,PM :1/525
CONT F. F.
1/2
fH
OUTPUT F. F.
HRI 23
H RESET
VRI 1
V RESET
LALTRI 15
LALT RESET
MODE1 21
MODE2 22
DECODE
N
P
PM
S
7 OLALT
8 OHD
2 OFLD1
5 OFLD
3 OBF/COLB
6 OBLK
4 OSYNC
12 OVD
27 OFH
17 O2FH
N : NTSC
P : PAL
PM : PALM
S : SECAM

INPUT
4fSC IN ; 4fSC INPUT
CL IN ; CLOCK INPUT
EXT ; SYNC MODE SELECT
(L ; INTERNAL/H ; EXTERNAL)
HRI ; H RESET
LALTRI ; LINE CHANGE RESET
MODE 1,2 ; SYSTEM SELECT
VRI ; V RESET

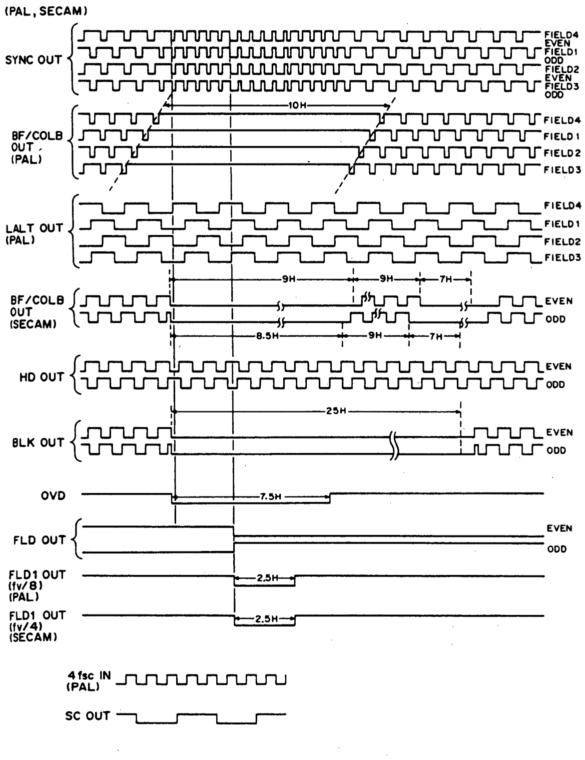
OUT PUT
4fSC OUT ; 4fSC OUTPUT
CL OUT ; CLOCK OUTPUT
HCOM ; PHASE COMPARATOR
O2fH ; 2fH OUTPUT
OBF/COLB : BURST FLAG/COLOR BLANKING
OBLK ; COMPOSITE BLANKING
OFH ; H FREQUENCE
OFLD ; EVEN, ODD
OFLD1 ; FIELD1
OHD ; H DRIVE
OLALT ; LINE CHANGE
OSC ; SUBCARRIER
OSYNC ; COMPOSITE SYNC
OVD ; V DRIVE

IC


(NTSC, PALM)
SYNC OUT
FIELD1 ODD
FIELD2 EVEN
FIELD3 ODD
FIELD4 EVEN
12H
BF/COLB OUT (PALM)
FIELD1
FIELD2
FIELD3
FIELD4
LALT OUT (PALM)
10H
BF/COLB OUT (NTSC)
ODD
EVEN
HD OUT
20H
BLK OUT
VD OUT
9H
FLD OUT
FLD OUT (fv/4) (NTSC)
3H
FLD1 OUT (fv/8) (PALM)
CL IN (NTSC)
4fsc IN (PALM)
SC OUT

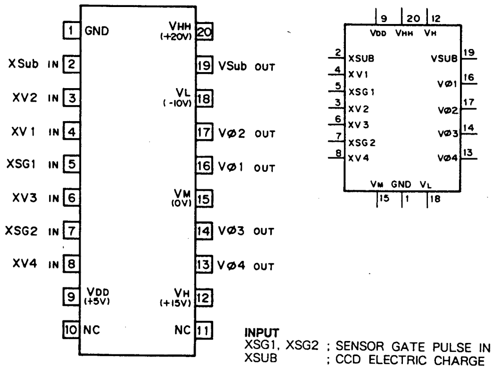

HB/CBLK
P96 N96
FH
P319 N140
P315 N315
HBLK
P169 N154
HSYNC
P66 N68
P22 N22
P32 N36
BF
P78 N76
EQ
P420 N423
P34 N32
P388 N387
VSYNC
P66 N68
H.R.
P90 N90
2FH (INNER CLOCK)
P140 N141
P169 N169
P145 N145
P908 N910
1H
1/2H
P454 N455
VD
FLD
FLD1
LALT

P: PAL, SECAM
N: NTSC, PALM


(PAL, SECAM)
SYNC OUT
FIELD4 EVEN
FIELD1 ODD
FIELD2 EVEN
FIELD3 ODD
10H
BF/COLB OUT (PAL)
FIELD4
FIELD1
FIELD2
FIELD3
LALT OUT (PAL)
9H
9H
7H
BF/COLB OUT (SECAM)
EVEN
ODD
8.5H
9H
7H
HD OUT
25H
BLK OUT
OVD
7.5H
FLD OUT
FLD1 OUT (fv/8) (PAL)
2.5H
FLD1 OUT (fv/4) (SECAM)
4fsc IN (PAL)
SC OUT

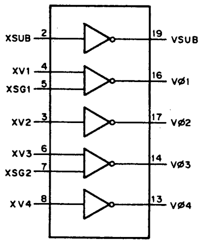
CXD1250M (SONY) FLAT PACKAGE

C-MOS VERTICAL CLOCK DRIVER FOR CCD
– TOP VIEW –


1 GND
XSub IN 2
XV2 IN 3
XV1 IN 4
XSG1 IN 5
XV3 IN 6
XSG2 IN 7
XV4 IN 8
9 VDD (+5V)
10 NC
20 VHH (+20V)
19 VSub OUT
18 VL (-10V)
17 VØ2 OUT
16 VØ1 OUT
15 VM (0V)
14 VØ3 OUT
13 VØ4 OUT
12 VH (+15V)
11 NC
9 20 12
VDD VHH VH
2 XSUB
4 XV1
5 XSG1
3 XV2
6 XV3
7 XSG2
8 XV4
VSUB 19
VØ1 16
VØ2 17
VØ3 14
VØ4 13
VM GND VL
15 1 18

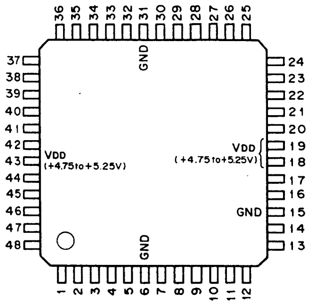
INPUT
XSG1, XSG2 ; SENSOR GATE PULSE INPUT
XSUB ; CCD ELECTRIC CHARGE SWEEPING AWAY PULSE INPUT
XV1-XV4 ; VERTICAL REGISTER TRANSMISSION CLOCK INPUT

OUTPUT
VSUB ; CCD ELECTRIC CHARGE SWEEPING AWAY PULSE OUTPUT
V ϕ 1-V ϕ 4 ; VERTICAL REGISTER TRANSMISSION CLOCK OUTPUT

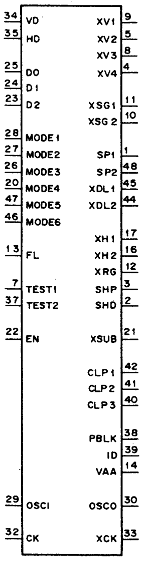

XSUB 2
19 VSUB
XV1 4
XSG1 5
16 VØ1
XV2 3
17 VØ2
XV3 6
XSG2 7
14 VØ3
XV4 8
13 VØ4

CXD1255Q (SONY) FLAT PACKAGE

C-MOS SCANNING SYSTEM TIMING SIGNAL GENERATOR FOR CCD CAMERA
– TOP VIEW –


36 35 34 33 32 31 30 29 28 27 26 25
37 38 39 40 41 42 43 44 45 46 47 48
24 23 22 21 20 19 18 17 16 15 14 13
1 2 3 4 5 6 7 8 9 10 11 12
GND
VDD (+4.75to+5.25V)
VDD (+4.75to+5.25V)
GND
GND

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	O	SP1	13	I	FL	25	I	D0	37	I	TEST2
2	O	SHD	14	O	VAA	26	I	MODE3	38	O	PBLK
3	O	SHP	15	–	GND	27	I	MODE2	39	O	ID
4	O	XV4	16	O	XH2	28	I	MODE1	40	O	CLP3
5	O	XV2	17	O	XH1	29	I	OSCI	41	O	CLP2
6	–	GND	18	–	VDD	30	O	OSCO	42	O	CLP1
7	I	TEST1	19	–	VDD	31	–	GND	43	–	VDD
8	O	XV3	20	I	MODE4	32	I	CK	44	O	XDL2
9	O	XV1	21	O	XSUB	33	O	XCK	45	O	XDL1
10	O	XSG2	22	I	EN	34	I	VD	46	I	MODE6
11	O	XSG1	23	I	D2	35	I	HD	47	I	MODE5
12	O	XRG	24	I	D1	36	O	CL	48	O	SP2

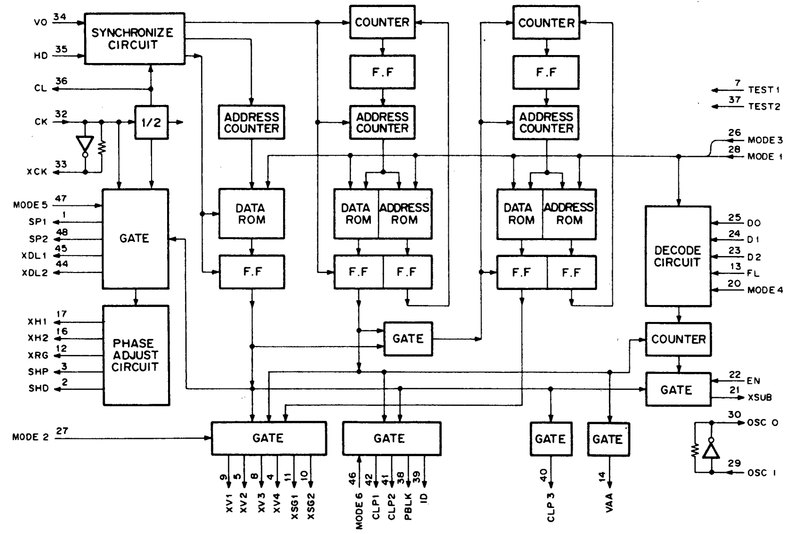

34 VD
35 HD
25 D0
24 D1
23 D2
28 MODE1
27 MODE2
26 MODE3
20 MODE4
47 MODE5
46 MODE6
13 FL
7 TEST1
37 TEST2
22 EN
29 OSCI
32 CK
XV1 9
XV2 5
XV3 8
XV4 4
XSG1 11
XSG2 10
SP1 1
SP2 48
XDL1 45
XDL2 44
XH1 17
XH2 16
XRG 12
SHP 3
SHD 2
XSUB 21
CLP1 42
CLP2 41
CLP3 40
PBLK 38
ID 39
VAA 14
OSCO 30
XCK 33

INPUT

CK	; INVERTER INPUT FOR DUTY CONTROL (MAIN CLOCK)
D0 – D2	; ELECTRONIC SHUTTER SPEED CHANGE
EN	; ELECTRONIC SHUTTER ON/OFF (0 ; OFF 1 ; ON)
FL	; ELECTRONIC SHUTTER FLICKER LESS
HD	; HORIZONTAL DRIVE PULSE
MODE1	; COLOR/MONOCHROME (B/W) CHANGE (0 ; COLOR 1 ; B/W)
MODE2	; FIELD/FRAME STORAGE CHANGE (0 ; FIELD 1 ; FRAME)
MODE3	; NTSC/PAL CHANGE (0 ; NTSC 1 ; PAL)
MODE4	; ELECTRONIC SHUTTER SPEED INPUT SELECT (0 ; SELIAL IN 1 ; PARALLEL IN)
MODE5	: COLOR/MONOCHROME (B/W) CHANGE (0 ; COLOR 1 ; B/W)
MODE6	; PBLK CONTROL PULSE (0 ; NARROW 1 ; WIDE)
OSCI	; INVERTER INPUT FOR OSCILLATOR
TEST1	; OPEN
TEST2	; GND
VD	; VERTICAL DRIVE SIGNAL

OUTPUT

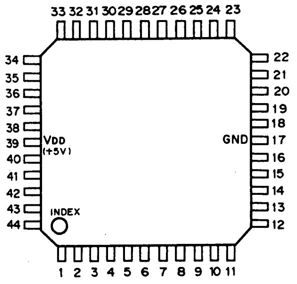
CL	; CLOCK OUTPUT FOR SYNC GENERATOR
CLP1 – CLP3	; CLAMP PULSE
ID	; LINE DISCRIMINATE PULSE
OSCO	; INVERTER OUTPUT FOR OSCILLATOR
PBLK	; PRE-BLANKING PULSE
SHD	; CCD DATA OUTPUT S/H PULSE
SHP	; CCD PRE CHARGE LEVEL S/H PULSE
SP1,SP2	; COLOR SEPARATE S/H PULSE
VAA	; VERTICAL BLANKING CLEANING PULSE
XCK	; INVERTER OUTPUT FOR DUTY CONTROL
XDL1 – XDL3	; CLOCK PULSE FOR DELAY LINE
XH1,XH2	; H REGISTER CLOCK PULSE
XRG	; CCD OUTPUT RESET PULSE
XSUB	; ELECTRIC CHARGE SWEEPING AWAY PULSE
XSG1,XSG2	; SENSOR ELECTRIC CHARGE READ OUT PULSE
XV1 – XV4	; V REGISTER CLOCK PULSE

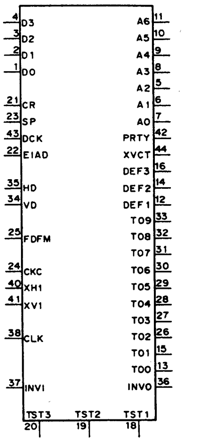

VD 34
HD 35
CL 36
CK 32
XCK 33
SYNCHRONIZE CIRCUIT
1/2
MODE5 47
SP1 1
SP2 48
XDL1 45
XDL2 44
GATE
XH1 17
XH2 16
XRG 12
SHP 3
SHD 2
PHASE ADJUST CIRCUIT
MODE 2 27
ADDRESS COUNTER
DATA ROM
F.F
COUNTER
F.F
ADDRESS COUNTER
DATA ROM
ADDRESS ROM
F.F
F.F
GATE
COUNTER
F.F
ADDRESS COUNTER
DATA ROM
ADDRESS ROM
F.F
F.F
7 TEST1
37 TEST2
26 MODE3
28 MODE1
DECODE CIRCUIT
25 D0
24 D1
23 D2
13 FL
20 MODE4
COUNTER
GATE
22 EN
21 XSUB
30 OSC O
29 OSC I
GATE
GATE
GATE
GATE
9 XV1
5 XV2
8 XV3
4 XV4
11 XSG1
10 XSG2
46 MODE6
42 CLP1
41 CLP2
38 PBLK
39 ID
40 CLP3
14 VAA

CXD8095Q (SONY) FLAT PACKAGE

C-MOS GATE ARRAY

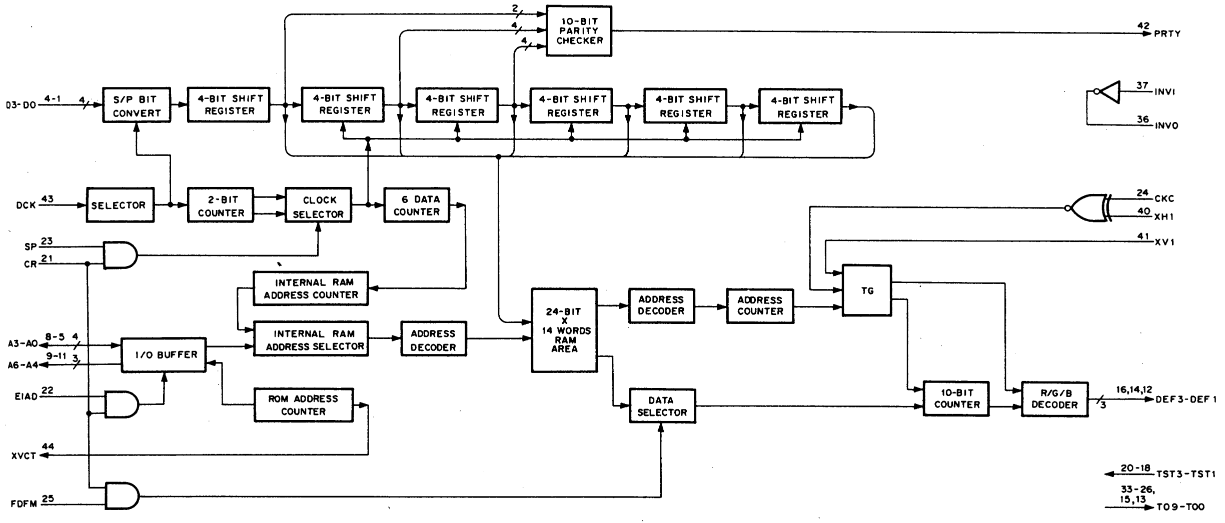
- TOP VIEW -

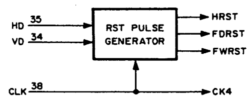

33 32 31 30 29 28 27 26 25 24 23
34
35
36
37
38
39
40
41
42
43
44
VDD
(+5V)
GND
INDEX
22
21
20
19
18
17
16
15
14
13
12
1 2 3 4 5 6 7 8 9 10 11


4 D3
3 D2
2 D1
1 D0
21 CR
23 SP
43 DCK
22 EIAD
35 HD
34 VD
25 FDFM
24 CKC
40 XH1
41 XV1
38 CLK
37 INVI
A6 11
A5 10
A4 9
A3 8
A2 5
A1 6
A0 7
PRTY 42
XVCT 44
DEF3 16
DEF2 14
DEF1 12
TO9 33
TO8 32
TO7 31
TO6 30
TO5 29
TO4 28
TO3 27
TO2 26
TO1 15
TO0 13
INVO 36
TST3 20
TST2 19
TST1 18

(VDD = + 5V)

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	I	D0	12	O	DEF1	23	I	SP	34	I	VD
2	I	D1	13	O	TO0	24	I	CKC	35	I	HD
3	I	D2	14	O	DEF2	25	I	FDFM	36	O	INVO
4	I	D3	15	O	TO1	26	O	TO2	37	I	INVI
5	I/O	A2	16	O	DEF3	27	O	TO3	38	I	CLK
6	I/O	A1	17	–	GND	28	O	TO4	39	–	VDD
7	I/O	A0	18	I	TST1	29	O	TO5	40	I	XH1
8	I/O	A3	19	I	TST2	30	O	TO6	41	I	XV1
9	O	A4	20	I	TST3	31	O	TO7	42	O	PRTY
10	O	A5	21	I	CR	32	O	TO8	43	I	DCK
11	O	A6	22	I	EIAD	33	O	TO9	44	O	XVCT


10-BIT PARITY CHECKER
2
4
4
42 PRTY
D3-D0 4-1 4
S/P BIT CONVERT
4-BIT SHIFT REGISTER
4-BIT SHIFT REGISTER
4-BIT SHIFT REGISTER
4-BIT SHIFT REGISTER
4-BIT SHIFT REGISTER
4-BIT SHIFT REGISTER
37 INVI
36 INVO
DCK 43
SELECTOR
2-BIT COUNTER
CLOCK SELECTOR
6 DATA COUNTER
24 CKC
40 XH1
41 XV1
SP 23
CR 21
INTERNAL RAM ADDRESS COUNTER
24-BIT X 14 WORDS RAM AREA
ADDRESS DECODER
ADDRESS COUNTER
TG
A3-A0 8-5 4
A6-A4 9-11 3
I/O BUFFER
INTERNAL RAM ADDRESS SELECTOR
ADDRESS DECODER
EIAD 22
ROM ADDRESS COUNTER
DATA SELECTOR
10-BIT COUNTER
R/G/B DECODER
3
16,14,12 DEF3-DEF1
XVCT 44
20-18 TST3-TST1
33-26, 15,13 TO9-TO0
FDFM 25


HD 35
VD 34
RST PULSE GENERATOR
HRST
FDRST
FWRST
CLK 38
CK4

INPUT

CKC ; XH1 ACTIVE EDGE DECISION
CLK ; SYSTEM CLOCK
CR ; DEFECT COMPENSATION DATA SELECT (H ; u-COM MODE, L ; NORMAL MODE)
D0 – D3 ; 4-BIT PARALLEL DATA
DCLK ; DATA INPUTS STROVE PULSE
EIAD ; H ; EXT ADDRESS, L ; INT ADDRESS
FDFM ; FRAME READ/FIELD READ SWITCH (H ; FIELD READ)
HD ; HORIZONTAL DRIVE
INVI ; INVERTER
SP ; INPUT DATA SERIAL/PARALLEL SWITCH (H ; SERIAL)
TST1 – TST3 ; TEST MODE SELECT
VD ; VERTICAL DRIVE
XH1 ; CLOCK FOR DEFECT CORRECTION
XV1 ; LINE COUNTER INPUT TERMINAL

OUTPUT

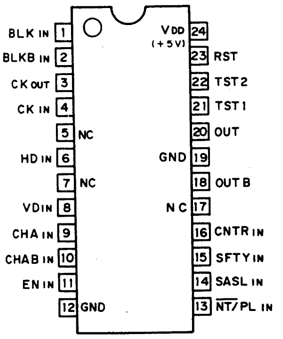
A4 – A6 ; DATA ADDRESS
DEF1 – DEF3 ; DEFECT COMPENSATION GATE PULSE (R. G. B-CH)
INVO ; INVERTER
PRTY ; 12-BIT DATA PARITY CHECK (H ; EVEN)
TO0 – TO9 ; TEST TERMINAL FOR INTERNAL DATA OUTPUTS
XVCT ; ROM POWER VOLTAGE CONTROL TERMINAL

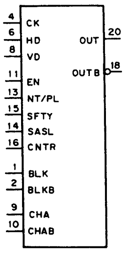
INPUT/OUTPUT

A0 – A3 ; DATA ADDRESS OUTPUTS (DATA ADDRESS INPUTS ; u-COM MODE)

CXD8154M (SONY)

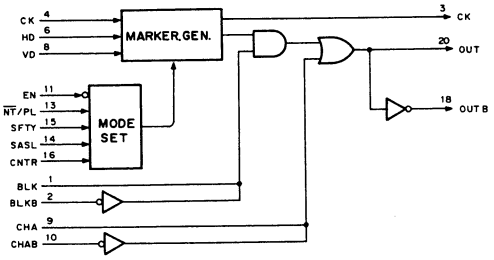
C-MOS GATE ARRAY
- TOP VIEW -


BLK IN 1
BLKB IN 2
CK OUT 3
CK IN 4
5 NC
HD IN 6
7 NC
VD IN 8
CHA IN 9
CHAB IN 10
EN IN 11
12 GND
VDD (+5V) 24
23 RST
22 TST2
21 TST1
20 OUT
GND 19
18 OUT B
NC 17
16 CNTR IN
15 SFTY IN
14 SASL IN
13 NT/PL IN


4 CK
6 HD
8 VD
11 EN
13 NT/PL
15 SFTY
14 SASL
16 CNTR
1 BLK
2 BLKB
9 CHA
10 CHAB
OUT 20
OUTB 18

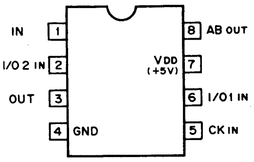
INPUT
BLK ; BLKG IN
BLKB ; $\overline{\text{BLKG}}$ IN
CHA ; CHR IN
CHAB ; $\overline{\text{CHR}}$ IN
CK ; CLOCK IN
CNTR ; CENTER $\overline{\text{ON}}$/OFF
EN ; ENABLE IN
HD ; HORIZONTAL DRIVE IN
NT/PL ; $\overline{\text{NTSC}}$/PAL
RST ; RESET
SASL ; SAFETY $\overline{\text{80}}$/90
SFTY ; SAFETY $\overline{\text{ON}}$/OFF
VD ; VERTICAL DRIVE IN
TST1 ; TEST 1
TST2 ; TEST 2

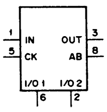
OUTPUT
OUT ; OUTPUT
OUTB ; $\overline{\text{OUTPUT}}$
CKO ; CLOCK OUT


CK 4
HD 6
VD 8
MARKER GEN.
3 CK
20 OUT
18 OUT B
EN 11
NT/PL 13
SFTY 15
SASL 14
CNTR 16
MODE SET
BLK 1
BLKB 2
CHA 9
CHAB 10

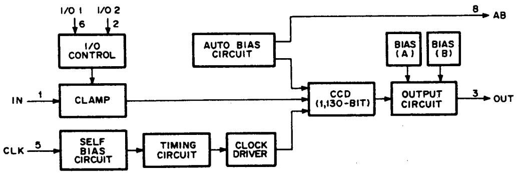
CXL5504M (SONY)

C-MOS CCD 1H DELAY LINE
- TOP VIEW -


IN 1
I/O 2 IN 2
OUT 3
4 GND
8 AB OUT
VDD (+5V) 7
6 I/O1 IN
5 CK IN

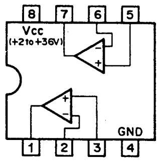

1 IN
5 CK
OUT 3
AB 8
I/O 1 6
I/O 2 2

AB ; AUTO BIAS DC OUTPUT
CK ; CLOCK INPUT
IN ; SIGNAL INPUT
I/O1, I/O2 ; I/O CONTROL 1,2 INPUTS
OUT ; SIGNAL OUTPUT


I/O 1 6
I/O 2 2
I/O CONTROL
AUTO BIAS CIRCUIT
8 AB
BIAS (A)
BIAS (B)
IN 1
CLAMP
CCD (1,130-BIT)
OUTPUT CIRCUIT
3 OUT
CLK 5
SELF BIAS CIRCUIT
TIMING CIRCUIT
CLOCK DRIVER

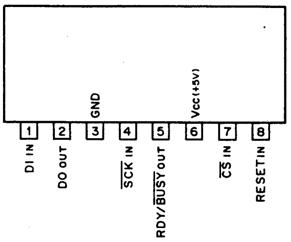
LM2903M (RAYTHEON) FLAT PACKAGE

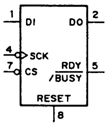
DUAL VOLTAGE COMPARATORS
- TOP VIEW -

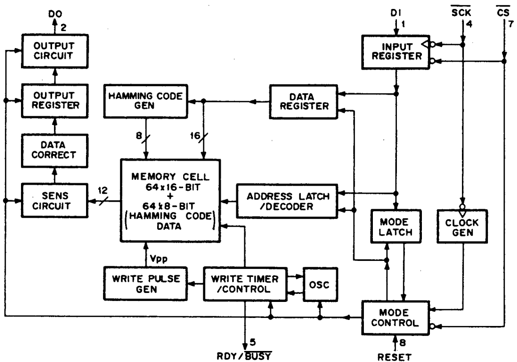

8
7
6
5
Vcc (+2 to +36V)
GND
1
2
3
4

M6M80011L (MITSUBISHI)

1k (64x16)-BIT ERASABLE PROM
- SIDE VIEW -


GND
Vcc (+5V)
1 DI IN
2 DO OUT
3
4 SCK IN
5 RDY/BUSY OUT
6
7 CS IN
8 RESET IN

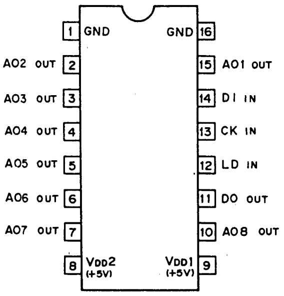

1 DI
DO 2
4 SCK
7 CS
RDY /BUSY 5
RESET 8

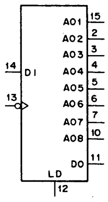

DO 2
DI 1
SCK 4
CS 7
OUTPUT CIRCUIT
INPUT REGISTER
OUTPUT REGISTER
HAMMING CODE GEN
DATA REGISTER
DATA CORRECT
8
16
MEMORY CELL 64x16-BIT + 64x8-BIT (HAMMING CODE) DATA
SENS CIRCUIT
12
ADDRESS LATCH /DECODER
MODE LATCH
CLOCK GEN
Vpp
WRITE PULSE GEN
WRITE TIMER /CONTROL
OSC
MODE CONTROL
5 RDY/BUSY
8 RESET

CS ; CHIP SELECT INPUT
DI ; DATA INPUT
DO ; DATA OUTPUT
RDY/$\overline{\text{BUSY}}$; BUSY OUTPUT
RESET ; RESET INPUT
SCK ; CLOCK INPUT

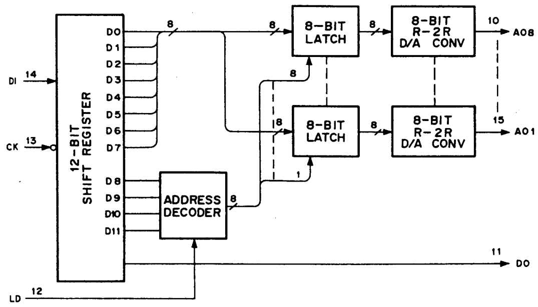
MB88342PF (FUJITSU) FLAT PACKAGE

C-MOS 8-BIT D/A CONVERTER
– TOP VIEW –


1 GND
2 AO2 OUT
3 AO3 OUT
4 AO4 OUT
5 AO5 OUT
6 AO6 OUT
7 AO7 OUT
8 VDD2 (+5V)
9 VDD1 (+5V)
10 AO8 OUT
11 DO OUT
12 LD IN
13 CK IN
14 DI IN
15 AO1 OUT
16 GND

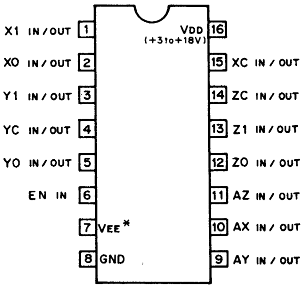

DI
LD
AO1
AO2
AO3
AO4
AO5
AO6
AO7
AO8
DO

AO1 – AO8 : 8-BIT D/A OUTPUTS
CK : CLOCK INPUT
DI : SERIAL DATA INPUT
DO : DATA OUTPUT
LD : DATA LOAD CONTROL INPUT (H : LOAD)

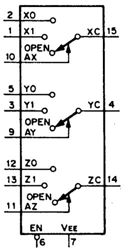

DI
CK
LD
12-BIT SHIFT REGISTER
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
ADDRESS DECODER
8-BIT LATCH
8-BIT R-2R D/A CONV
AO8
AO1
DO

MC14053BF (MOTOROLA) FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


1 X1 IN/OUT
2 X0 IN/OUT
3 Y1 IN/OUT
4 YC IN/OUT
5 Y0 IN/OUT
6 EN IN
7 VEE*
8 GND
9 AY IN/OUT
10 AX IN/OUT
11 AZ IN/OUT
12 Z0 IN/OUT
13 Z1 IN/OUT
14 ZC IN/OUT
15 XC IN/OUT
16 VDD (+3to+18V)

VEE*; VDD–VEE = +3 to +18 V

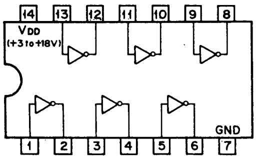

X0
X1
XC
OPEN
AX
Y0
Y1
YC
AY
Z0
Z1
ZC
AZ
EN
VEE

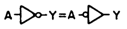
CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
0	0	0
0	1	1
1	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

MC14069UBF (MOTOROLA)
TC4069UBF (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER
– TOP VIEW –


VDD (+3to+18V)
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14



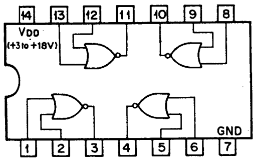
Y = $\overline{A}$

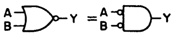
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

MC14001BF (MOTOROLA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE
– TOP VIEW –


VDD (+3to+18V)
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14



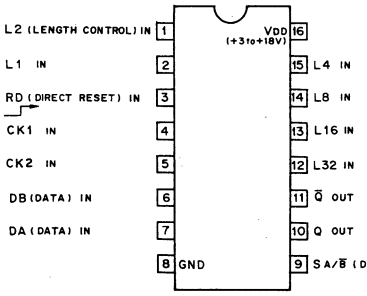
Y = $\overline{A+B}$ = $\overline{A}\cdot\overline{B}$

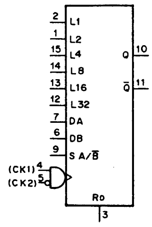
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

MC14557BF (MOTOROLA) FLAT PACKAGE

C-MOS 1-TO-64-BIT VARIABLE LENGTH SHIFT REGISTER
– TOP VIEW –


1 L2 (LENGTH CONTROL) IN
2 L1 IN
3 RD (DIRECT RESET) IN
4 CK1 IN
5 CK2 IN
6 DB (DATA) IN
7 DA (DATA) IN
8 GND
9 SA/$\overline{B}$ (DATA A OR B SELECT) IN
10 Q OUT
11 $\overline{Q}$ OUT
12 L32 IN
13 L16 IN
14 L8 IN
15 L4 IN
16 VDD (+3to+18V)


L1
L2
L4
L8
L16
L32
DA
DB
S A/$\overline{B}$
(CK1)
(CK2)
RD
Q
$\overline{Q}$

LENGTH SELECT TRUTH TABLE

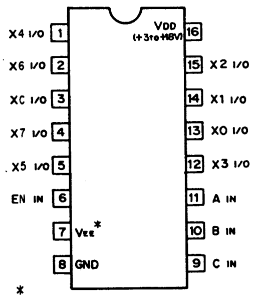
L32	L16	L8	L4	L2	L1	REGISTER LENGTH
0	0	0	0	0	0	1 - BIT
0	0	0	0	0	1	2 - BIT
0	0	0	0	1	0	3 - BIT
0	0	0	0	1	1	4 - BIT
0	0	0	1	0	0	5 - BIT
⋮	⋮	⋮	⋮	⋮	⋮	⋮
1	1	1	1	0	0	61 - BIT
1	1	1	1	0	1	62 - BIT
1	1	1	1	1	0	63 - BIT
1	1	1	1	1	1	64 - BIT

INPUTS				OUTPUT
RD	SA/$\overline{B}$	CK1	CK2	Q
0	0	↑	0	DB
0	1	↑	0	DA
0	0	1	↓	DB
0	1	1	↓	DA
1	X	X	X	0

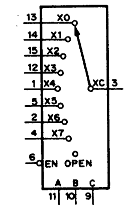
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

MC14051BF (MOTOROLA) FLAT PACKAGE

C-MOS 8-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


1 X4 I/O
2 X6 I/O
3 XC I/O
4 X7 I/O
5 X5 I/O
6 EN IN
7 VEE*
8 GND
9 C IN
10 B IN
11 A IN
12 X3 I/O
13 X0 I/O
14 X1 I/O
15 X2 I/O
16 VDD (+3to+18V)

*
VEE ; VDD – VEE = +3 to +18V


X0
X1
X2
X3
X4
X5
X6
X7
XC
EN
OPEN
A
B
C

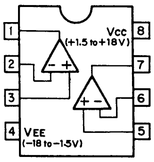
CONTROL INPUTS				SELECTED CHANNEL
EN	SELECT			
	C	B	A	
0	0	0	0	X0
0	0	0	1	X1
0	0	1	0	X2
0	0	1	1	X3
0	1	0	0	X4
0	1	0	1	X5
0	1	1	0	X6
0	1	1	1	X7
1	X	X	X	OPEN

X0 to X7; ANALOG INPUTS/OUTPUTS
XC; COMMON INPUT/OUTPUT
A,B,C; CHANNEL SELECT INPUT
EN; ENABLE INPUT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

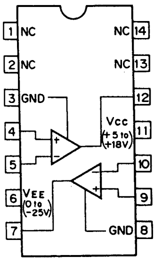
NJM062M (JRC) FLAT PACKAGE
TL062CPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(JFET INPUT)
– TOP VIEW –


1
Vcc 8
(+1.5 to +18V)
2
7
3
6
4 VEE
(−18 to −1.5V)
5

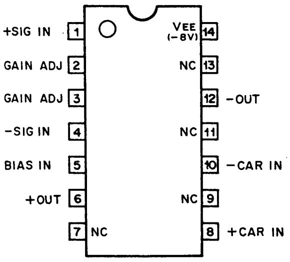
NJM319M (JRC) FLAT PACKAGE

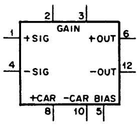
DUAL VOLTAGE COMPARATOR
– TOP VIEW –


1 NC
NC 14
2 NC
NC 13
3 GND
12
4
Vcc
(+5 to +18V)
11
5
10
6 VEE
(0 to −25V)
9
7
GND 8

RC1496M (RAYTHEON) FLAT PACKAGE

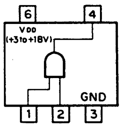
BALANCED MODULATOR/DEMODULATOR
– TOP VIEW –

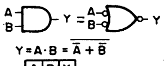

+SIG IN 1
GAIN ADJ 2
GAIN ADJ 3
−SIG IN 4
BIAS IN 5
+OUT 6
7 NC
VEE (−8V) 14
NC 13
12 −OUT
NC 11
10 −CAR IN
NC 9
8 +CAR IN


2
3
GAIN
1
+SIG
+OUT
6
4
−SIG
−OUT
12
+CAR
−CAR
BIAS
8
10
5

SC14S81F (MOTOROLA) FLAT PACKAGE
TC4S81F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT AND GATE
– TOP VIEW –


6
4
VDD
(+3 to +18V)
GND
1
2
3



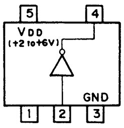
$Y=A\cdot B=\overline{\overline{A}+\overline{B}}$

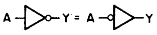
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0:LOW LEVEL
1:HIGH LEVEL

SC7SU04F (MOTOROLA) FLAT PACKAGE

C-MOS INVERTER
– TOP VIEW –


5
4
VDD
(+2 to +6V)
GND
1
2
3



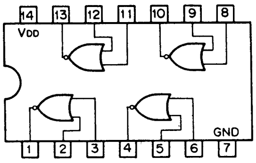
$Y=\overline{A}$

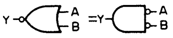
A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

SN74HC02NS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT NOR GATE
– TOP VIEW –


14
13
12
11
10
9
8
VDD
GND
1
2
3
4
5
6
7



$Y=\overline{A+B}=\overline{A}\cdot\overline{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

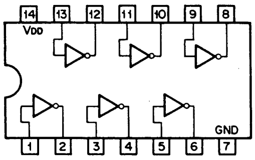
0:LOW LEVEL
1:HIGH LEVEL

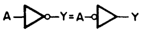
NOTE :

TYPE	VDD
TC74AC02F	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC04NS (TI) FLAT PACKAGE
TC74AC04F (TOSHIBA) FLAT PACKAGE

C-MOS HEX INVERTER
– TOP VIEW –


14
13
12
11
10
9
8
VDD
GND
1
2
3
4
5
6
7



$Y=\overline{A}$

A	Y
0	1
1	0

0:LOW LEVEL
1:HIGH LEVEL

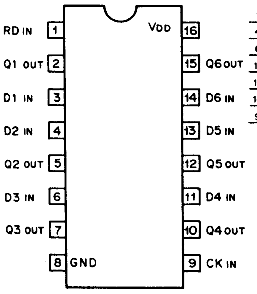
NOTE :

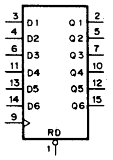
TYPE	VDD
74ACT04 TYPES 74HCT04 TYPES	+5V
TC74AC04F	+2 to +5.5V
TC74ACT04F	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC174NS (TI) FLAT PACKAGE

C-MOS D-TYPE FLIP-FLOP WITH RESET

- TOP VIEW -

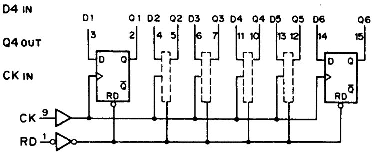

RD IN 1
Q1 OUT 2
D1 IN 3
D2 IN 4
Q2 OUT 5
D3 IN 6
Q3 OUT 7
8 GND
VDD 16
15 Q6 OUT
14 D6 IN
13 D5 IN
12 Q5 OUT
11 D4 IN
10 Q4 OUT
9 CK IN


D1
D2
D3
D4
D5
D6
Q1
Q2
Q3
Q4
Q5
Q6
RD

EACH FLIP - FLOP

INPUT			OUT
RD	CK	D	Q
0	X	X	0
1	↑	0	0
1	↑	1	1
1	0	X	Qo

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE


D1
Q1
D2
Q2
D3
Q3
D4
Q4
D5
Q5
D6
Q6
D
Q
RD
CK
RD

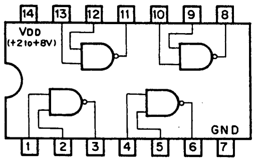
NOTE :

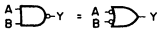
TYPE	VDD
74AC	+3.3 to +5V
74ACT	+5V
74HC	+2 to +6V
TC74AC174F	+2 to +5.5V

TC40H000F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE

- TOP VIEW -


VDD
(+2 to +8V)
GND



$Y = \overline{A \cdot B} = \bar{A} + \bar{B}$

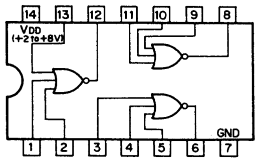
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

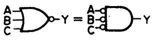
0; LOW LEVEL
1; HIGH LEVEL

TC40H027F (TOSHIBA) FLAT PACKAGE

C-MOS 3-INPUT POSITIVE-NOR GATE

- TOP VIEW -


VDD
(+2 to +8V)
GND



$Y = \overline{A+B+C} = \bar{A} \cdot \bar{B} \cdot \bar{C}$

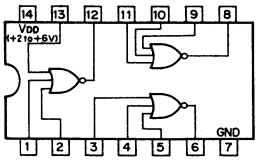
A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

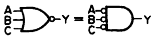
0; LOW LEVEL
1; HIGH LEVEL

SN74HC27NS (TI) FLAT PACKAGE

C-MOS 3-LINE POSITIVE-NOR GATE

- TOP VIEW -


VDD
(+2 to +6V)
GND



$Y = \overline{A+B+C} = \bar{A} \cdot \bar{B} \cdot \bar{C}$

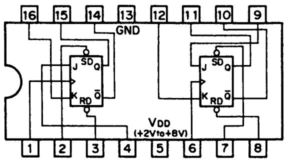
A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

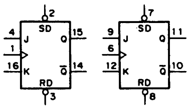
0; LOW LEVEL
1; HIGH LEVEL

TC40H076AF (TOSHIBA) FLAT PACKAGE

C-MOS HIGH SPEED EDGE TRIGGER TYPE J-K FLIP-FLOP WITH DIRECT SET/RESET

- TOP VIEW -


GND
J
SD
Q
K
RD
Q̄
VDD
(+2V to +8V)


2
4
1
16
15
14
3
J
SD
Q
K
RD
Q̄
7
9
6
12
11
10
8

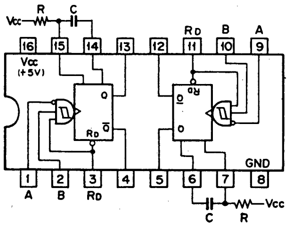
INPUTS					OUTPUTS	
RD	SD	CK	J	K	Q	Q̄
1	0	X	X	X	1	0
0	1	X	X	X	0	1
0	0	X	X	X	1	1
1	1	↓	0	0	NO CHANGE	
1	1	↓	1	0	1	0
1	1	↓	0	1	0	1
1	1	↓	1	1	TOGGLE	
1	1	↑	X	X	NO CHANGE	

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

SN74LS221NS (TI) FLAT PACKAGE

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT

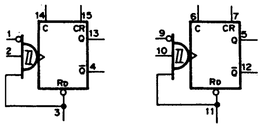
- TOP VIEW -


R
C
Vcc
RD
B
A
Vcc
(+5V)
Q
RD
Q
GND
A
B
RD
C
R
Vcc

INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

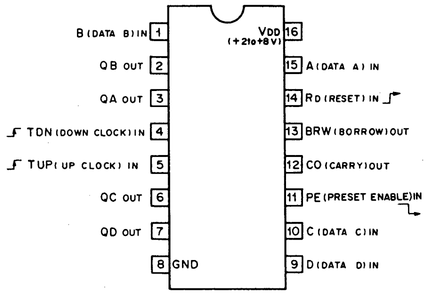
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

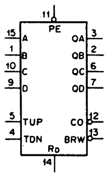
OUTPUT PULSE WIDTH = 0.7CR


14
15
1
2
C
CR
Q
Q̄
13
4
RD
3
6
7
9
10
C
CR
Q
Q̄
5
12
RD
11

TC40H193F (TOSHIBA) FLAT PACKAGE

C-MOS PRESETTABLE SYNCHRONOUS 4-BIT UP/DOWN COUNTER
– TOP VIEW –


B (DATA B) IN 1
QB OUT 2
QA OUT 3
TDN (DOWN CLOCK) IN 4
TUP (UP CLOCK) IN 5
QC OUT 6
QD OUT 7
8 GND
VDD (+2to+8V) 16
15 A (DATA A) IN
14 RD (RESET) IN
13 BRW (BORROW) OUT
12 CO (CARRY) OUT
11 PE (PRESET ENABLE) IN
10 C (DATA C) IN
9 D (DATA D) IN


11
PE
15 A
1 B
10 C
9 D
5 TUP
4 TDN
QA 3
QB 2
QC 6
QD 7
CO 12
BRW 13
RD
14

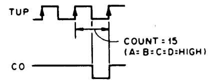
CONTROL INPUTS				MODE
RD	PE	TUP	TDN	
1	X	X	X	RESET TO ZERO
0	0	X	X	PRESET
0	1	↑	1	UP COUNT
0	1	1	↑	DOWN COUNT
0	1	1	1	NO COUNT

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

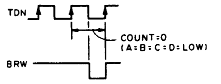
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

UP COUNT ↓
DOWN COUNT ↑

$CO = \overline{TUP \cdot QA \cdot QB \cdot QC \cdot QD}$

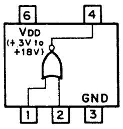

TUP
COUNT = 15
(A=B=C=D=HIGH)
CO

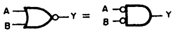
$BRW = \overline{\overline{TDN} \cdot \overline{QA} \cdot \overline{QB} \cdot \overline{QC} \cdot \overline{QD}}$


TDN
COUNT = 0
(A=B=C=D=LOW)
BRW

TC4S01F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE
– TOP VIEW –


6
4
VDD (+3V to +18V)
GND
1
2
3



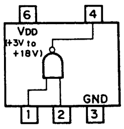
$Y = \overline{A + B} = \overline{A} \cdot \overline{B}$

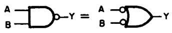
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC4S11F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE
– TOP VIEW –


6
4
VDD (+3V to +18V)
GND
1
2
3



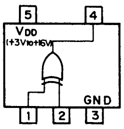
$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

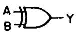
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC4S30F (TOSHIBA) FLAT PACKAGE

C-MOS EXCLUSIVE OR GATE
– TOP VIEW –


5
4
VDD (+3V to +16V)
GND
1
2
3



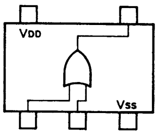
$Y = \overline{A} \cdot B + A \cdot \overline{B}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

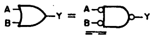
0; LOW LEVEL
1; HIGH LEVEL

TC4S71F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT OR GATE
– TOP VIEW –



(MINI MOLD PACKAGE)



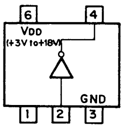
$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

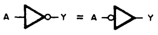
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

TC4SU69F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER BUFFER
– TOP VIEW –


6
4
VDD (+3V to +18V)
GND
1
2
3



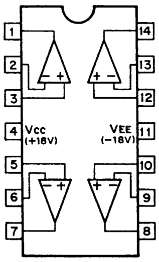
$Y = \overline{A}$

A	Y
0	1
1	0

0; LOW LEVEL
1; HIGH LEVEL

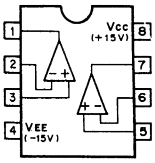
TL064CNS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(J FET-INPUT)
– TOP VIEW –


1
2
3
4
5
6
7
14
13
12
11
10
9
8
Vcc (+18V)
VEE (−18V)
− +
+ −
− +
+ −

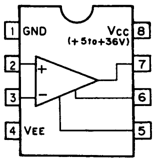
TL082CPS (TI) FLAT PACKAGE

OPERATIONAL AMPLIFIER
(J FET-INPUT)
- TOP VIEW -


1
2
3
4
VEE
(-15V)
Vcc
(+15V)
8
7
6
5

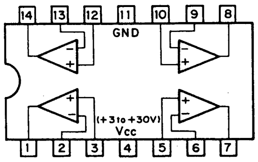
uPC311G2 (NEC) FLAT PACKAGE

VOLTAGE COMPARATOR
- TOP VIEW -


1
GND
2
3
4
VEE
Vcc
(+5to+36V)
8
7
6
5

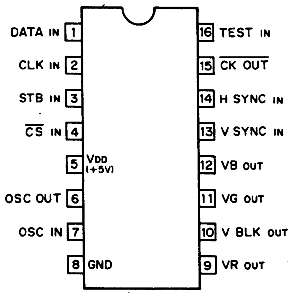
uPC324G2 (NEC) FLAT PACKAGE

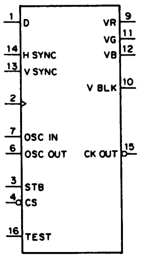
QUAD. OP AMPLIFIER
- TOP VIEW -


14
13
12
11
10
9
8
GND
(+3to+30V)
Vcc
1
2
3
4
5
6
7

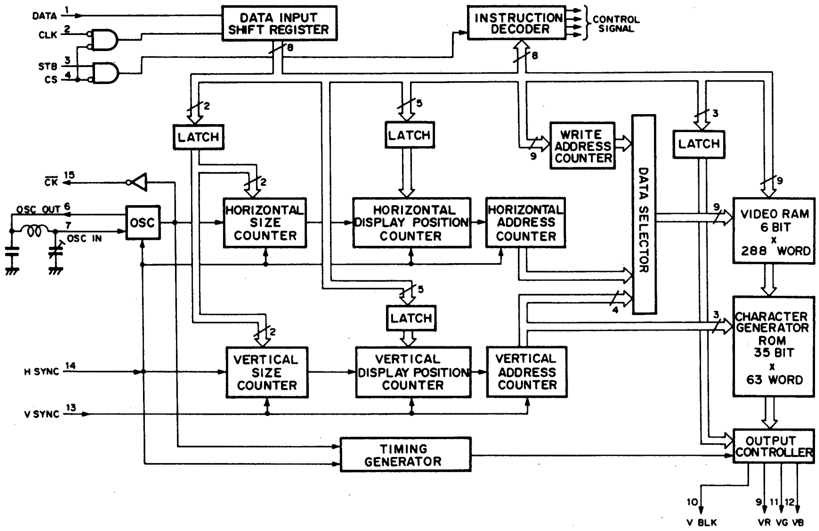
uPD6142G-101 (NEC) FLAT PACKAGE

C-MOS 8-BIT SERIALL INPUT CHARACTER DISPLAY
- TOP VIEW -

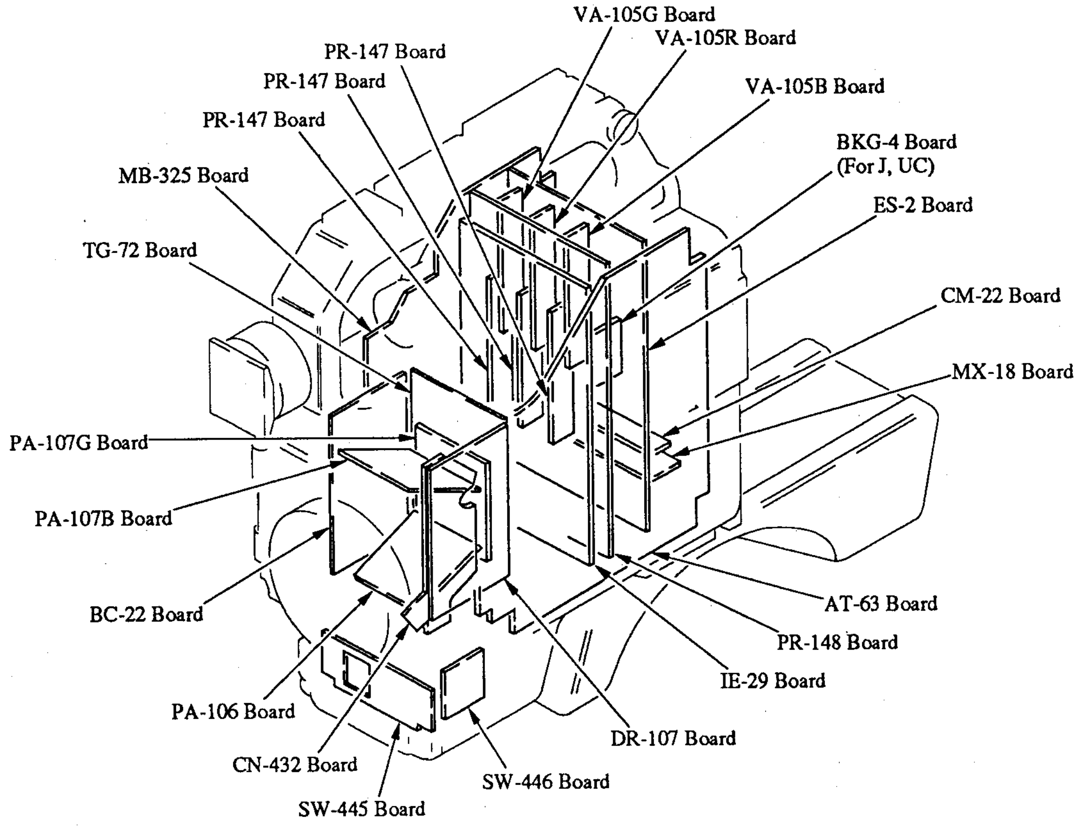

DATA IN 1
CLK IN 2
STB IN 3
CS IN 4
5 VDD (+5V)
OSC OUT 6
OSC IN 7
8 GND
16 TEST IN
15 CK OUT
14 H SYNC IN
13 V SYNC IN
12 VB OUT
11 VG OUT
10 V BLK OUT
9 VR OUT


1 D
14 H SYNC
13 V SYNC
2
7 OSC IN
6 OSC OUT
3 STB
4 CS
16 TEST
VR 9
VG 11
VB 12
V BLK 10
CK OUT 15

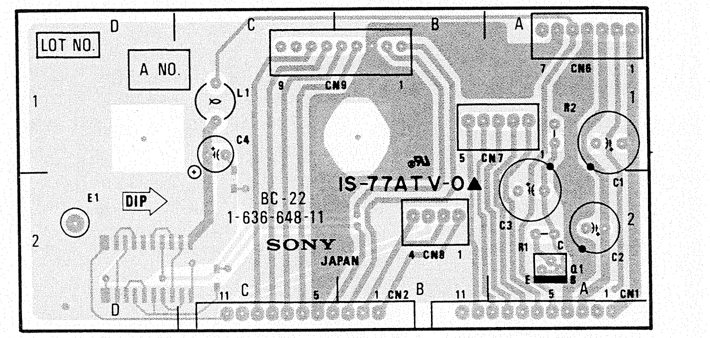
D; DATA INPUT
CK OUT; EQUAL TO OUTPUT OF OSC OUT
CLK; CLOCK INPUT
CS; CHIP SELECT INPUT
H SYNC; H SYNC INPUT
OSC IN, OUT; EXTERNAL TERMINAL FOR OSC
STB; STROBE INPUT
TEST; TEST CLOCK INPUT
VB; BLUE CHARACTER DATA OUTPUT
V BLK; V BLANKING OUTPUT
VG; GREEN CHARACTER DATA OUTPUT
VR; RED CHARACTER DATA OUTPUT
V SYNC; V SYNC INPUT


DATA 1
CLK 2
STB 3
CS 4
DATA INPUT SHIFT REGISTER
8
INSTRUCTION DECODER
CONTROL SIGNAL
8
2
LATCH
5
LATCH
WRITE ADDRESS COUNTER
9
3
LATCH
DATA SELECTOR
CK 15
OSC OUT 6
7 OSC IN
OSC
2
HORIZONTAL SIZE COUNTER
HORIZONTAL DISPLAY POSITION COUNTER
HORIZONTAL ADDRESS COUNTER
9
9
VIDEO RAM 6 BIT x 288 WORD
5
LATCH
4
3
CHARACTER GENERATOR ROM 35 BIT x 63 WORD
2
H SYNC 14
VERTICAL SIZE COUNTER
VERTICAL DISPLAY POSITION COUNTER
VERTICAL ADDRESS COUNTER
V SYNC 13
TIMING GENERATOR
OUTPUT CONTROLLER
10
V BLK
9 11 12
VR VG VB

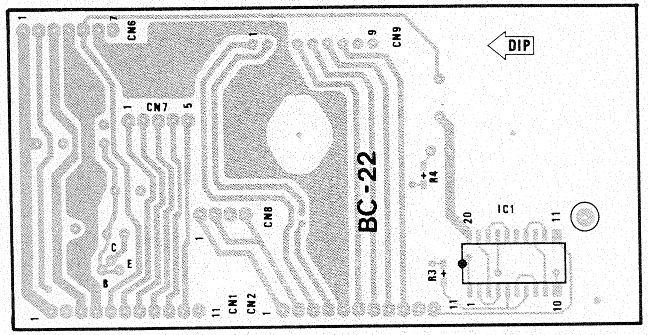
SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS


VA-105G Board
VA-105R Board
PR-147 Board
PR-147 Board
VA-105B Board
PR-147 Board
BKG-4 Board
(For J, UC)
MB-325 Board
ES-2 Board
TG-72 Board
CM-22 Board
MX-18 Board
PA-107G Board
PA-107B Board
BC-22 Board
AT-63 Board
PR-148 Board
IE-29 Board
PA-106 Board
DR-107 Board
CN-432 Board
SW-446 Board
SW-445 Board

BC-22 BOARD


LOT NO.
A NO.
DIP
BC-22
1-636-648-11
SONY
JAPAN
IS-77ATV-0
CN6
CN7
CN8
CN9
CN1
CN2
A
B
C
D
1
2

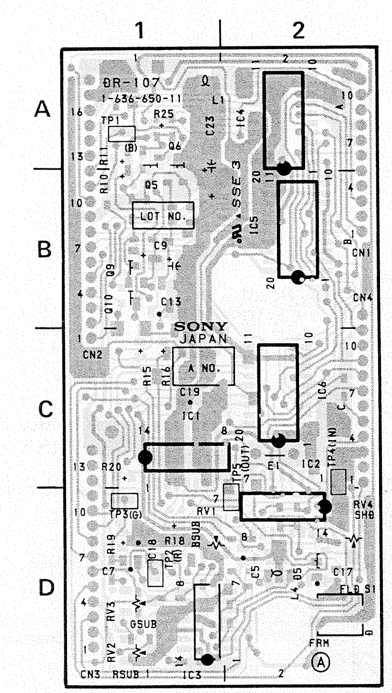
1-636-648-11 COMPONENT SIDE


DIP
BC-22
CN6
CN7
CN8
CN9
CN1
CN2
IC1

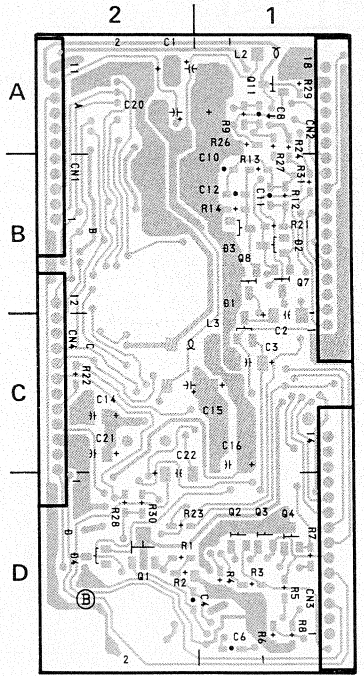
1-636-654-11 SOLDERING SIDE

TG-72 BOARD

TG-72 (1-636-652-11)	
CN1	A-1
CN2	C-1
CN3	A-2
CN4	C-2
CP1	A-2
IC1	B-2
IC2	A-1
IC3	B-1
IC4	C-1
IC5	B-2
IC6	C-2


DR-107
1-636-650-11
LOT NO.
SONY
JAPAN
A NO.
A
B
C
D
1
2

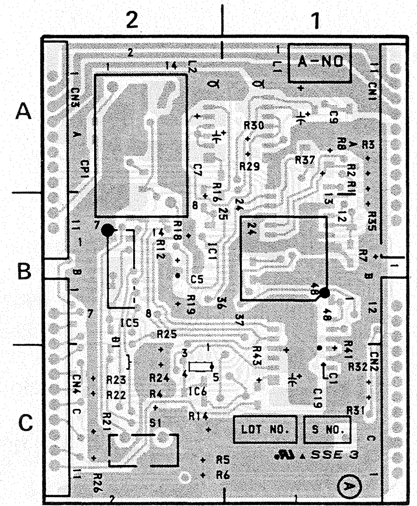
1-636-650-11 COMPONENT SIDE



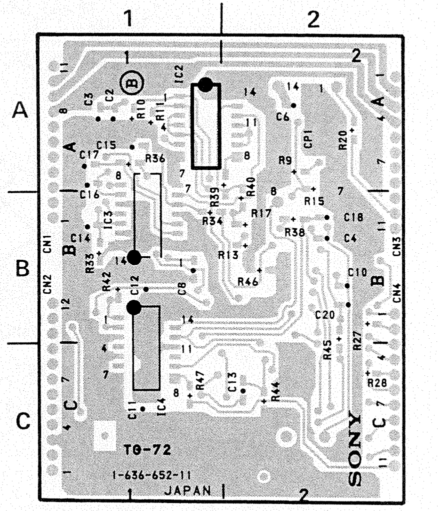
1-636-650-11 SOLDERING SIDE

DR-107 BOARD

DR-107 (1-636-650-11)	
CN1	B-2
CN2	A-1
CN3	D-1
CN4	C-2
D1	B-1
D2	B-1
D4	D-2
D5	D-2
IC1	C-1
IC2	C-2
IC3	D-1
IC4	A-2
IC5	B-2
IC6	C-2
Q1	D-2
Q2	D-1
Q3	D-1
Q4	D-1
Q5	B-1
Q6	A-1
Q7	B-1
Q8	B-1
Q9	B-1
Q10	B-1
Q11	A-1
RV1	D-1
RV2	D-1
RV3	D-1
RV4	D-2
S1	D-2
TP1	A-1
TP2	D-1
TP3	D-1
TP4	C-2
TP5	C-2


A-NO
LOT NO.
S NO.
A
B
C
1
2

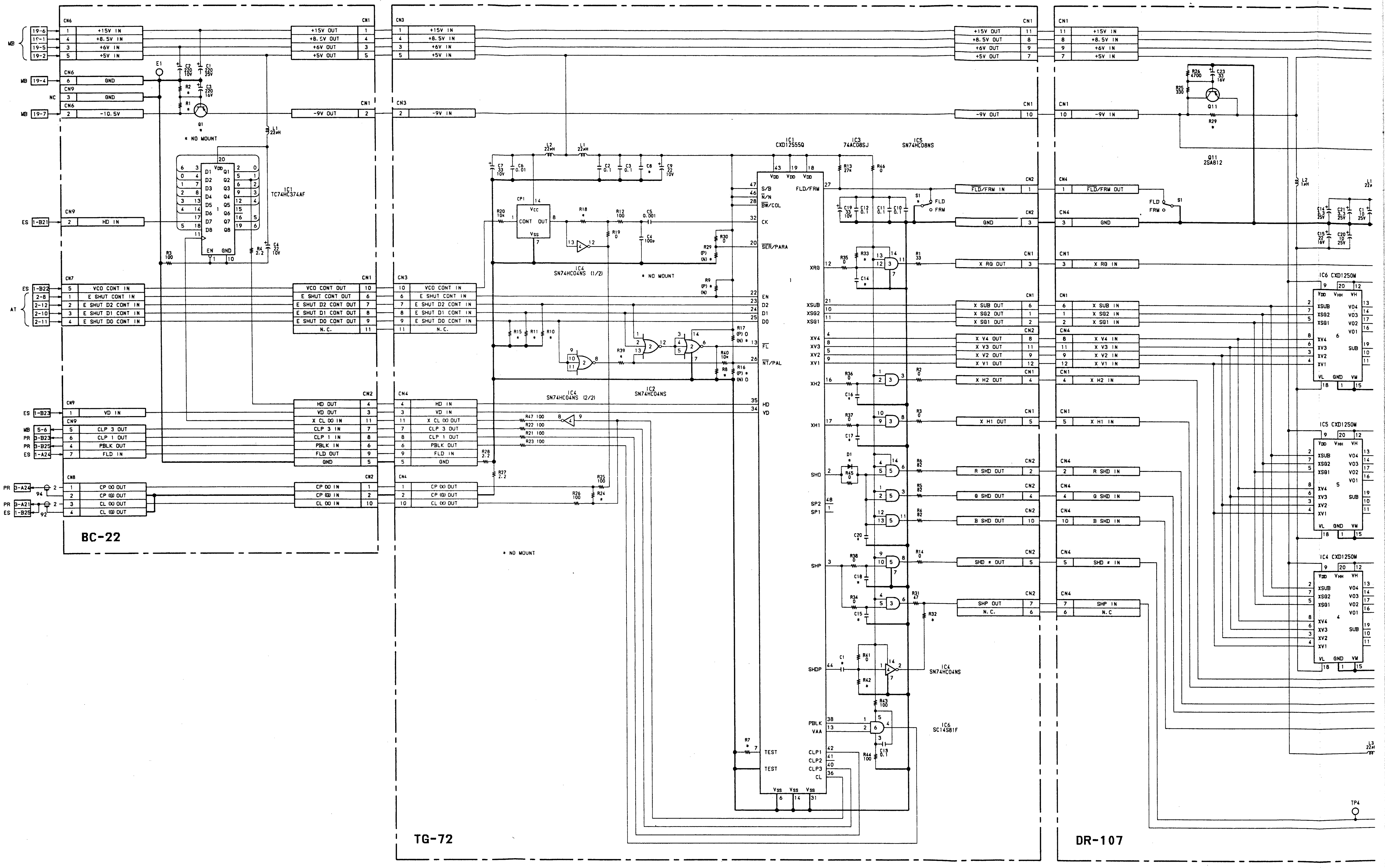
1-636-652-11 COMPONENT SIDE

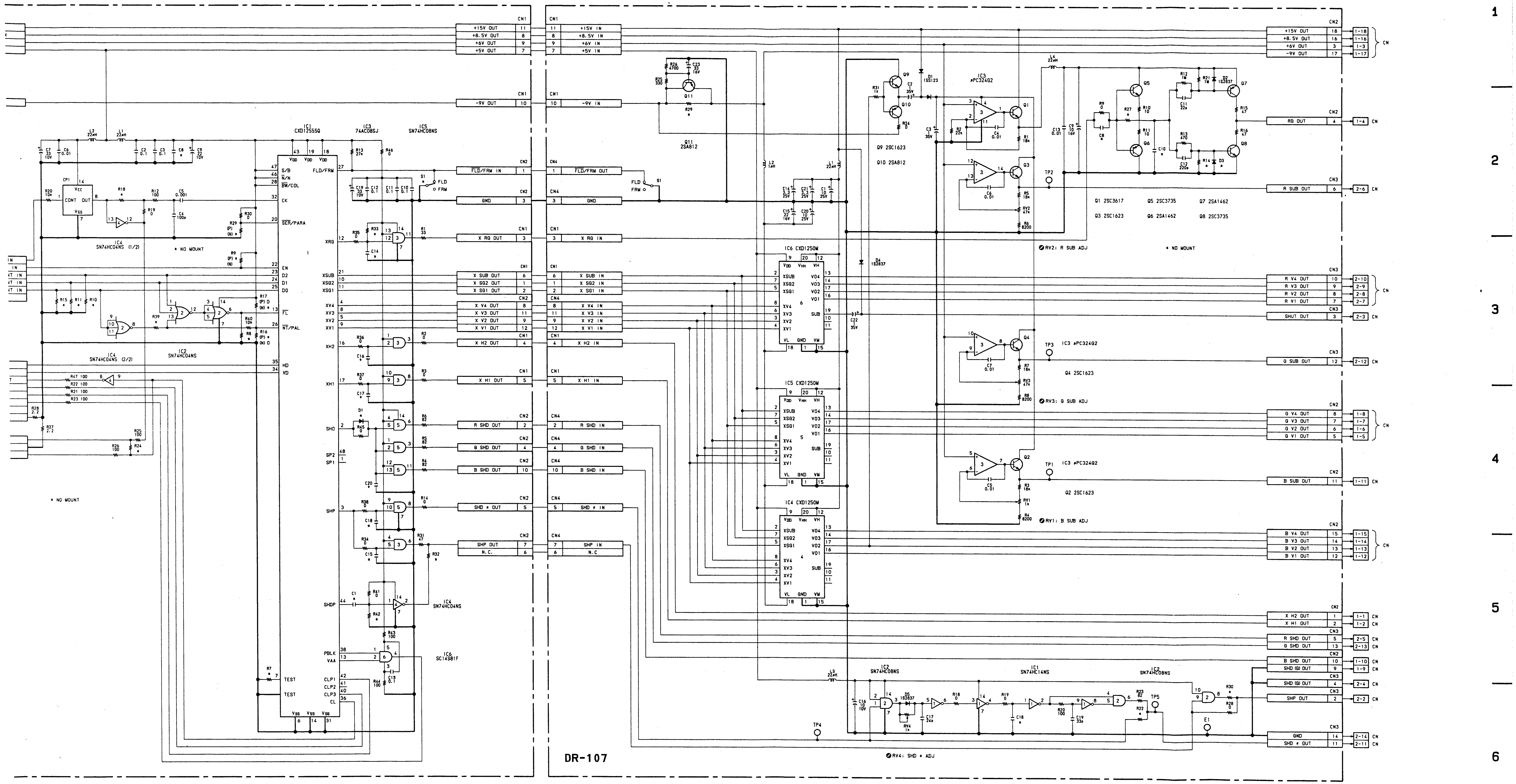

TG-72
1-636-652-11
JAPAN
SONY
A
B
C
1
2

1-636-652-11 SOLDERING SIDE

CCD BLOCK (1/2)

BC-22 BOARD
TG-72 BOARD
DR-107 BOARD


BC-22
TG-72
DR-107
CN6
CN9
CN7
CN8
CN1
CN2
CN3
CN4
+15V IN
+8.5V IN
+6V IN
+5V IN
GND
-10.5V
+15V OUT
+8.5V OUT
+6V OUT
+5V OUT
-9V OUT
-9V IN
HD IN
HD OUT
VD IN
VD OUT
VCO CONT IN
E SHUT CONT IN
E SHUT D2 CONT IN
E SHUT D1 CONT IN
E SHUT D0 CONT IN
VCO CONT OUT
E SHUT CONT OUT
E SHUT D2 CONT OUT
E SHUT D1 CONT OUT
E SHUT D0 CONT OUT
N.C.
X CL (X) IN
CLP 3 OUT
CLP 1 OUT
PBLK OUT
FLD IN
CLP 3 IN
CLP 1 IN
PBLK IN
FLD OUT
CP (X) OUT
CP (G) OUT
CL (X) OUT
CL (B) OUT
CP (X) IN
CP (G) IN
CL (X) IN
MB
ES
AT
PR
NC
IC1 TC74HC374AF
Q1
* NO MOUNT
IC1 CXD1255Q
IC3 74AC08SJ
IC5 SN74HC08NS
IC4 SN74HC04NS (1/2)
IC4 SN74HC04NS (2/2)
IC2 SN74HC04NS
IC4 SN74HC04NS
IC6 SC14581F
CP1
S/B
R/N
BW/COL
CK
SER/PARA
EN
D2
D1
D0
FL
NT/PAL
HD
VD
FLD/FRM
XRG
XSUB
XSG2
XSG1
XV4
XV3
XV2
XV1
XH2
XH1
SHD
SP2
SP1
SHP
SHDP
PBLK
VAA
CLP1
CLP2
CLP3
CL
TEST
FLD/FRM IN
FLD/FRM OUT
X RG OUT
X RG IN
X SUB OUT
X SG2 OUT
X SG1 OUT
X V4 OUT
X V3 OUT
X V2 OUT
X V1 OUT
X H2 OUT
X H1 OUT
R SHD OUT
G SHD OUT
B SHD OUT
SHD * OUT
SHP OUT
X SUB IN
X SG2 IN
X SG1 IN
X V4 IN
X V3 IN
X V2 IN
X V1 IN
X H2 IN
X H1 IN
R SHD IN
G SHD IN
B SHD IN
SHD * IN
SHP IN
N.C
S1
FLD
FRM
Q11 2SA812
IC6 CXD1250M
IC5 CXD1250M
IC4 CXD1250M
TP4


1
2
3
4
5
6
IC1 CXD1255Q
IC2 SN74HC04NS
IC3 74AC08SJ
IC4 SN74HC04NS (1/2)
IC4 SN74HC04NS (2/2)
IC5 SN74HC08NS
IC6 SC14581F
CP1
Q11 2SA812
IC3 μPC324G2
IC6 CXD1250M
IC5 CXD1250M
IC4 CXD1250M
IC2 SN74HC08NS
IC1 SN74HC14NS
Q9 2SC1623
Q10 2SA812
Q1 2SC3617
Q3 2SC1623
Q5 2SC3735
Q6 2SA1462
Q7 2SA1462
Q8 2SC3735
Q4 2SC1623
Q2 2SC1623
RV1: B SUB ADJ
RV2: R SUB ADJ
RV3: G SUB ADJ
RV4: SHD * ADJ
* NO MOUNT
+15V OUT
+8.5V OUT
+6V OUT
+5V OUT
-9V OUT
+15V IN
+8.5V IN
+6V IN
+5V IN
-9V IN
FLD/FRM IN
FLD/FRM OUT
GND
X RG OUT
X RG IN
X SUB OUT
X SG2 OUT
X SG1 OUT
X SUB IN
X SG2 IN
X SG1 IN
X V4 OUT
X V3 OUT
X V2 OUT
X V1 OUT
X V4 IN
X V3 IN
X V2 IN
X V1 IN
X H2 OUT
X H1 OUT
X H2 IN
X H1 IN
R SHD OUT
G SHD OUT
B SHD OUT
R SHD IN
G SHD IN
B SHD IN
SHD * OUT
SHD * IN
SHP OUT
SHP IN
N.C.
RG OUT
R SUB OUT
R V4 OUT
R V3 OUT
R V2 OUT
R V1 OUT
SHUT OUT
G SUB OUT
G V4 OUT
G V3 OUT
G V2 OUT
G V1 OUT
B SUB OUT
B V4 OUT
B V3 OUT
B V2 OUT
B V1 OUT
SHD (G) OUT
SHD (R) OUT
TP1
TP2
TP3
TP4
TP5
E1
S1
FLD
FRM
CN1
CN2
CN3
CN4
DR-107

CCD BLOCK (1/2)

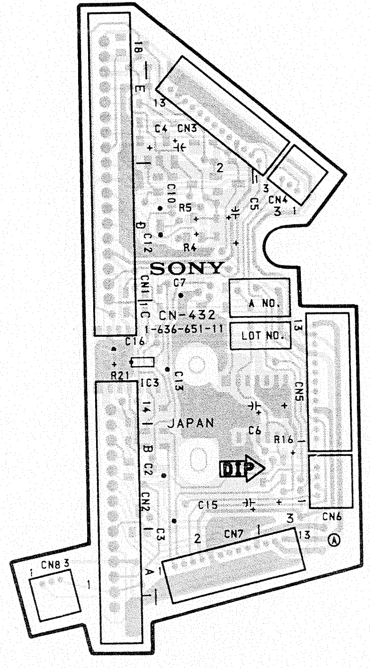
BC-22 BOARD
TG-72 BOARD
DR-107 BOARD
DXC-327 (J, UC)
DXC-327P (EK)

* NO MOUNT

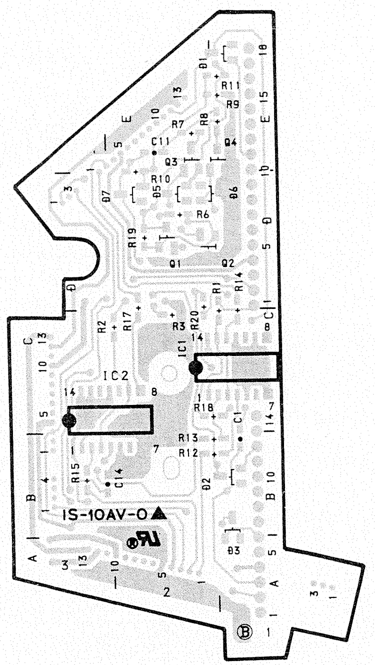
C-6 C-7

D | E | F | G | H | I

CN-432 BOARD

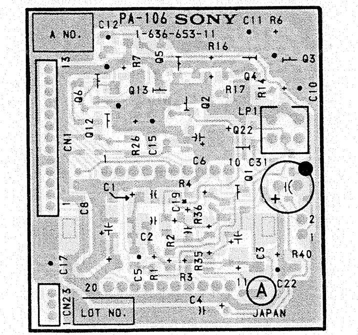

SONY
CN-432
1-636-651-11
A NO.
LOT NO.
JAPAN
DIP

1-636-651-11 COMPONENT SIDE

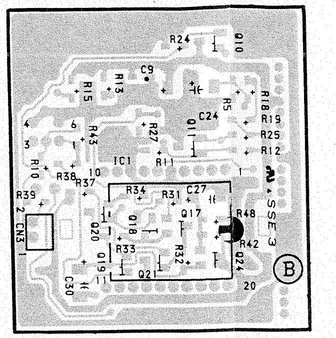


1-636-651-11 SOLDERING SIDE

PA-106 BOARD

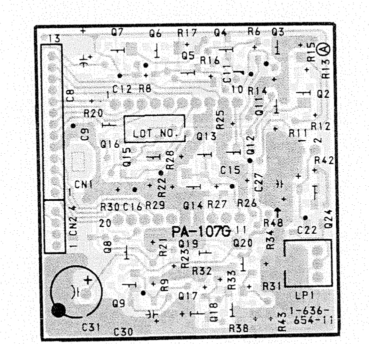

PA-106 SONY
1-636-653-11
A NO.
LOT NO.
JAPAN

1-636-653-11 COMPONENT SIDE

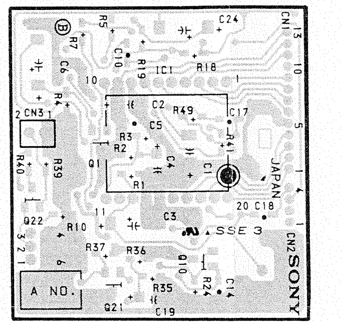


1-636-653-11 SOLDERING SIDE

PA-107G BOARD

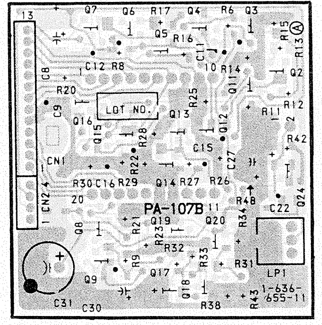

PA-107G
LOT NO.
1-636-654-11

1-636-654-11, 12 COMPONENT SIDE

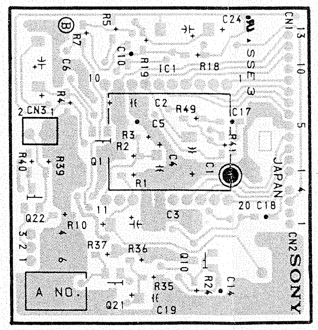

SSE 3
JAPAN
A NO.
SONY

1-636-654-11, 12 SOLDERING SIDE

PA-107B BOARD


PA-107B
LOT NO.
1-636-655-11

1-636-655-11, 12 COMPONENT SIDE

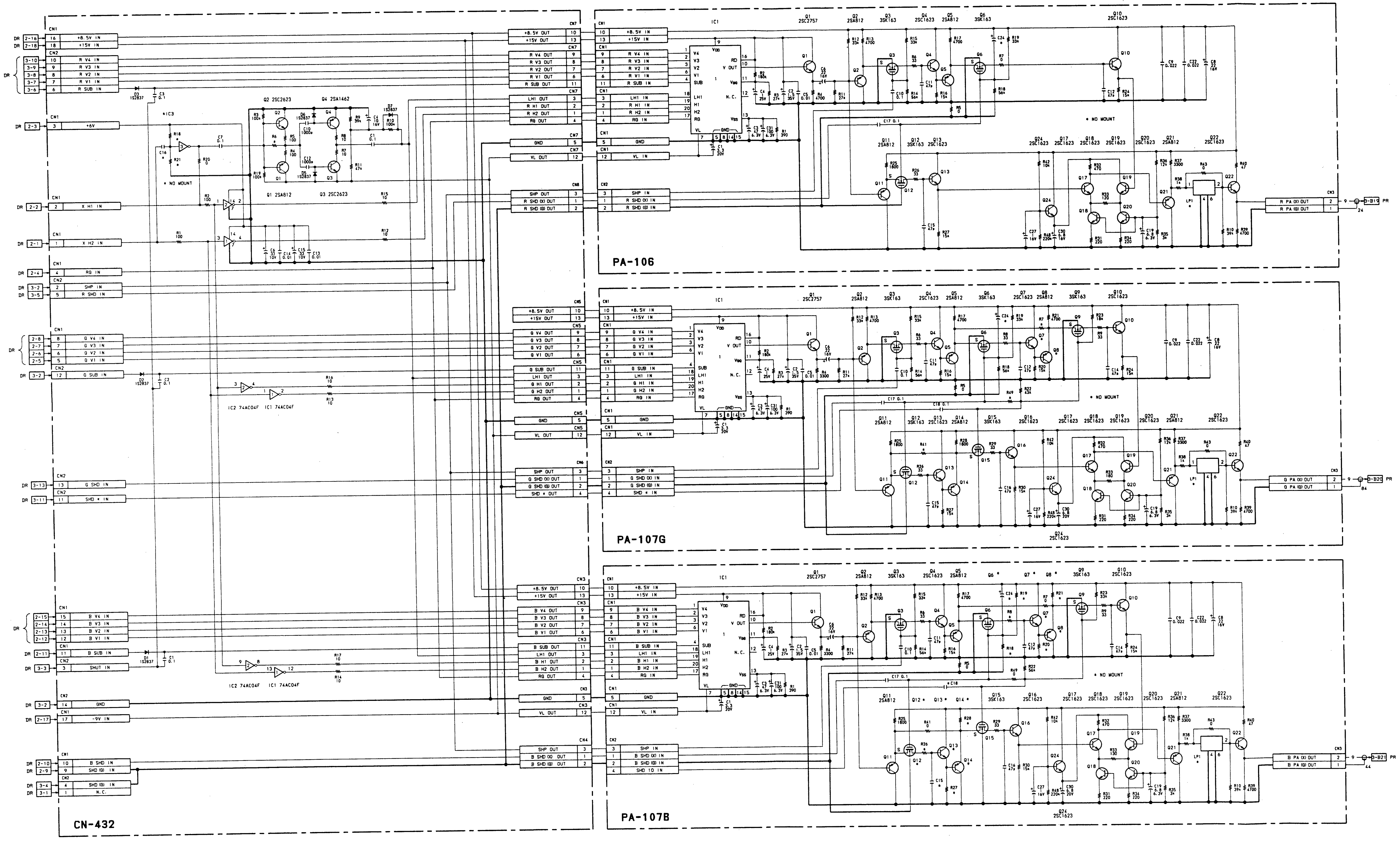

SSE 3
JAPAN
A NO.
SONY

1-636-655-11, 12 SOLDERING SIDE

CCD BLOCK (2/2)

CN-432 BOARD
PA-106 BOARD
PA-107G BOARD
PA-107B BOARD

1


CN-432
PA-106
PA-107G
PA-107B
IC1
* NO MOUNT
+8.5V IN
+15V IN
R V4 IN
R V3 IN
R V2 IN
R V1 IN
R SUB IN
+6V
X H1 IN
X H2 IN
RG IN
SHP IN
R SHD IN
G V4 IN
G V3 IN
G V2 IN
G V1 IN
G SUB IN
G SHD IN
SHD + IN
B V4 IN
B V3 IN
B V2 IN
B V1 IN
B SUB IN
SHUT IN
GND
-9V IN
B SHD IN
SHD (G) IN
SHD (B) IN
N.C.
IC2 74AC04F
IC1 74AC04F
R PA (R) OUT
G PA (G) OUT
B PA (B) OUT
PR
DR

2

3

4

5

CCD BLOCK (2/2)

CN-432 BOARD
PA-107G BOARD
PA-106 BOARD
PA-107B BOARD
DXC-327 (J, UC)
DXC-327P (EK)

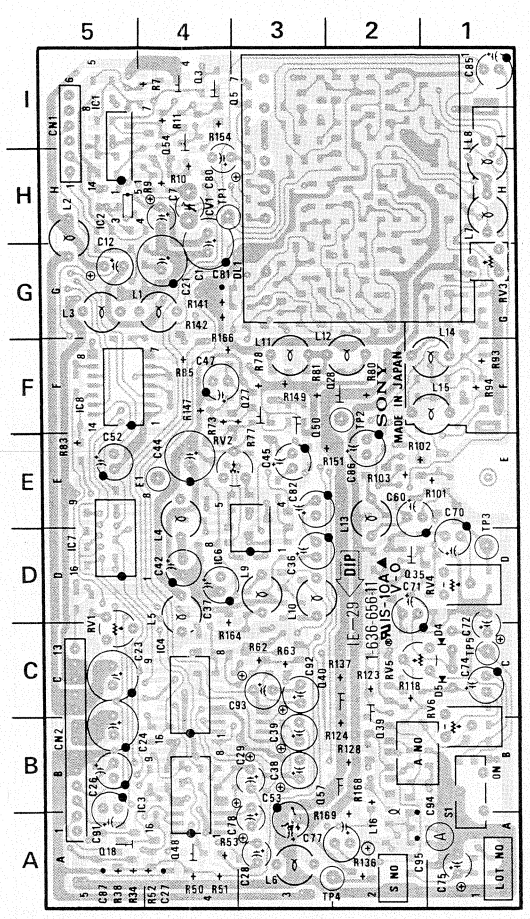
6

A | B | C | D | E | F

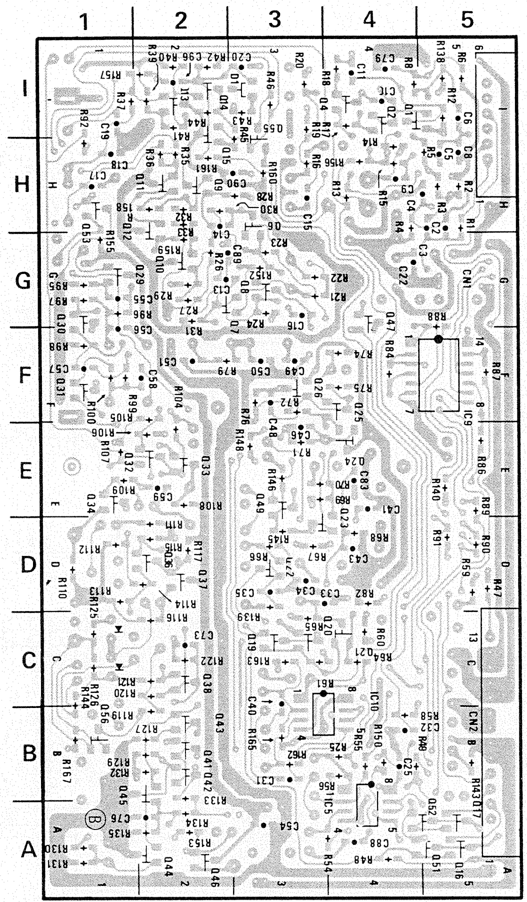
IE-29 BOARD

IE-29 (1-636-656-11)

CN1	G-5
CN2	B-5
DL1	G-3
D1	I-3
D4	C-1
D5	C-1
E1	E-5
IC1	I-5
IC2	G-5
IC3	B-5
IC4	C-4
IC5	A-4
IC6	D-4
IC7	D-5
IC8	F-5
IC9	F-5
IC10	C-4
Q1	I-4
Q2	I-4
Q3	I-4
Q4	I-4
Q5	I-3
Q6	H-3
Q7	G-3
Q8	G-3
Q9	H-2
Q10	G-2
Q11	H-2
Q12	H-1
Q13	I-2
Q14	I-2
Q15	H-2
Q16	A-5
Q17	A-5
Q18	A-5
Q19	C-3
Q21	C-4
Q22	D-3
Q23	D-4
Q24	E-4
Q25	F-4
Q26	F-3
Q27	F-3
Q28	F-2
Q29	G-2
Q30	G-1
Q31	F-1
Q32	E-1
Q33	E-2
Q34	E-1
Q35	D-2
Q36	D-2
Q37	D-2
Q38	C-2
Q39	B-2
Q40	C-3
Q41	B-2
Q42	B-2
Q43	B-2
Q44	A-2
Q45	B-1
Q46	A-2
Q48	A-4
Q49	E-3
Q50	F-3
Q51	A-5
Q52	A-5
Q53	H-1
Q54	I-4
Q55	I-3
Q56	B-1
Q57	B-3
RV1	C-5
RV2	E-4
RV3	G-1
RV4	D-1
RV5	C-2
RV6	C-1
S1	B-1
TP1	G-4
TP2	F-2
TP3	E-1
TP4	A-3
TP5	C-1



1-636-656-11 COMPONENT SIDE



1-636-656-11 SOLDERING SIDE

IE-29 (1-636-656-11)

CN1	G-5
CN2	B-5
DL1	G-3
D1	I-3
D4	C-1
D5	C-1
E1	E-5
IC1	I-5
IC2	G-5
IC3	B-5
IC4	C-4
IC5	A-4
IC6	D-4
IC7	D-5
IC8	F-5
IC9	F-5
IC10	C-4
Q1	I-4
Q2	I-4
Q3	I-4
Q4	I-4
Q5	I-3
Q6	H-3
Q7	G-3
Q8	G-3
Q9	H-2
Q10	G-2
Q11	H-2
Q12	H-1
Q13	I-2
Q14	I-2
Q15	H-2
Q16	A-5
Q17	A-5
Q18	A-5
Q19	C-3
Q21	C-4
Q22	D-3
Q23	D-4
Q24	E-4
Q25	F-4
Q26	F-3
Q27	F-3
Q28	F-2
Q29	G-2
Q30	G-1
Q31	F-1
Q32	E-1
Q33	E-2
Q34	E-1
Q35	D-2
Q36	D-2
Q37	D-2
Q38	C-2
Q39	B-2
Q40	C-3
Q41	B-2
Q42	B-2
Q43	B-2
Q44	A-2
Q45	B-1
Q46	A-2
Q48	A-4
Q49	E-3
Q50	F-3
Q51	A-5
Q52	A-5
Q53	H-1
Q54	I-4
Q55	I-3
Q56	B-1
Q57	B-3
RV1	C-5
RV2	E-4
RV3	G-1
RV4	D-1
RV5	C-2
RV6	C-1
S1	B-1
TP1	G-4
TP2	F-2
TP3	E-1
TP4	A-3
TP5	C-1

IE-29 BOARD

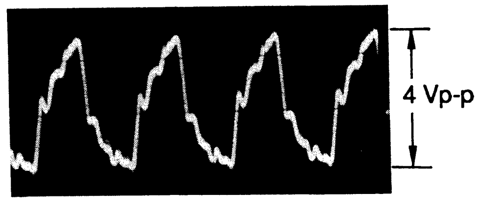
注意:

1. DC電圧はデジタル電圧計による値。
2. 波形写真、及びDC電圧は下記条件での測定。
   - グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが100 IREになる様にレンズ絞りをセットする。
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : OFF

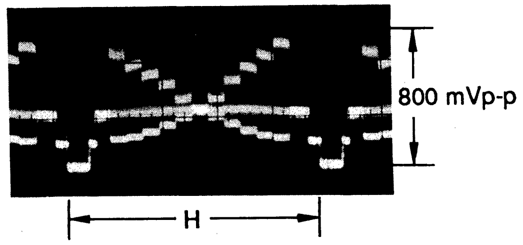
NOTE:

1. All voltage are DC, measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Shoot the grayscale chart. Adjust lens iris so that a white level is 100 IRE on the waveform monitor.
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : OFF

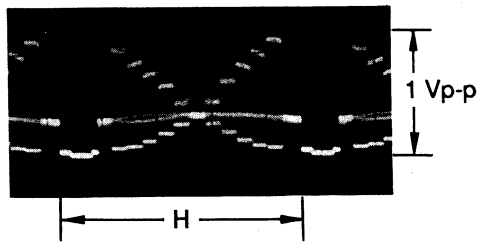
CN2-13 pin



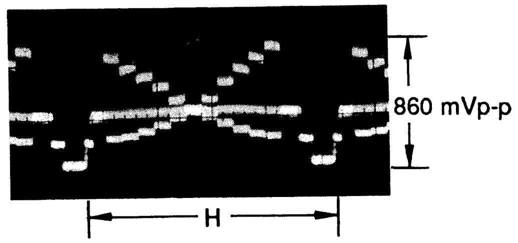
CN2-2 pin



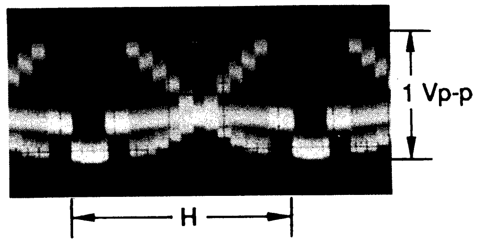
TP1



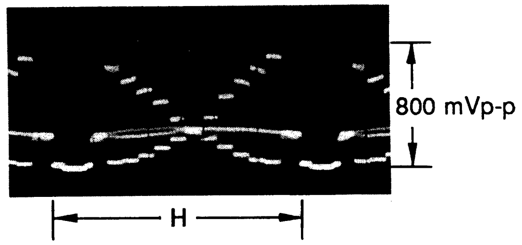
CN2-3 pin



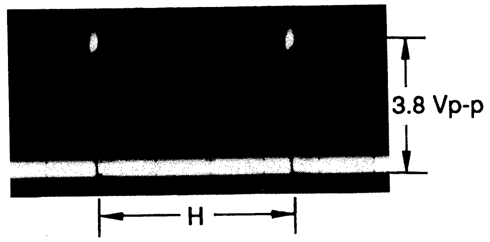
IC1-1 pin



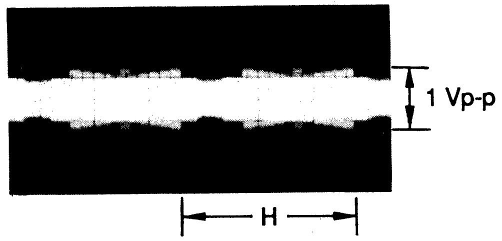
TP2



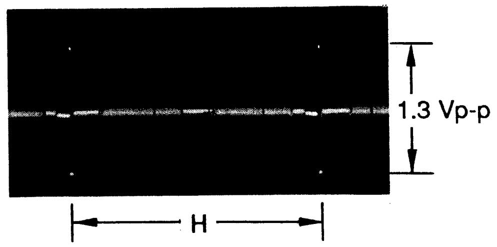
CN1-5 pin



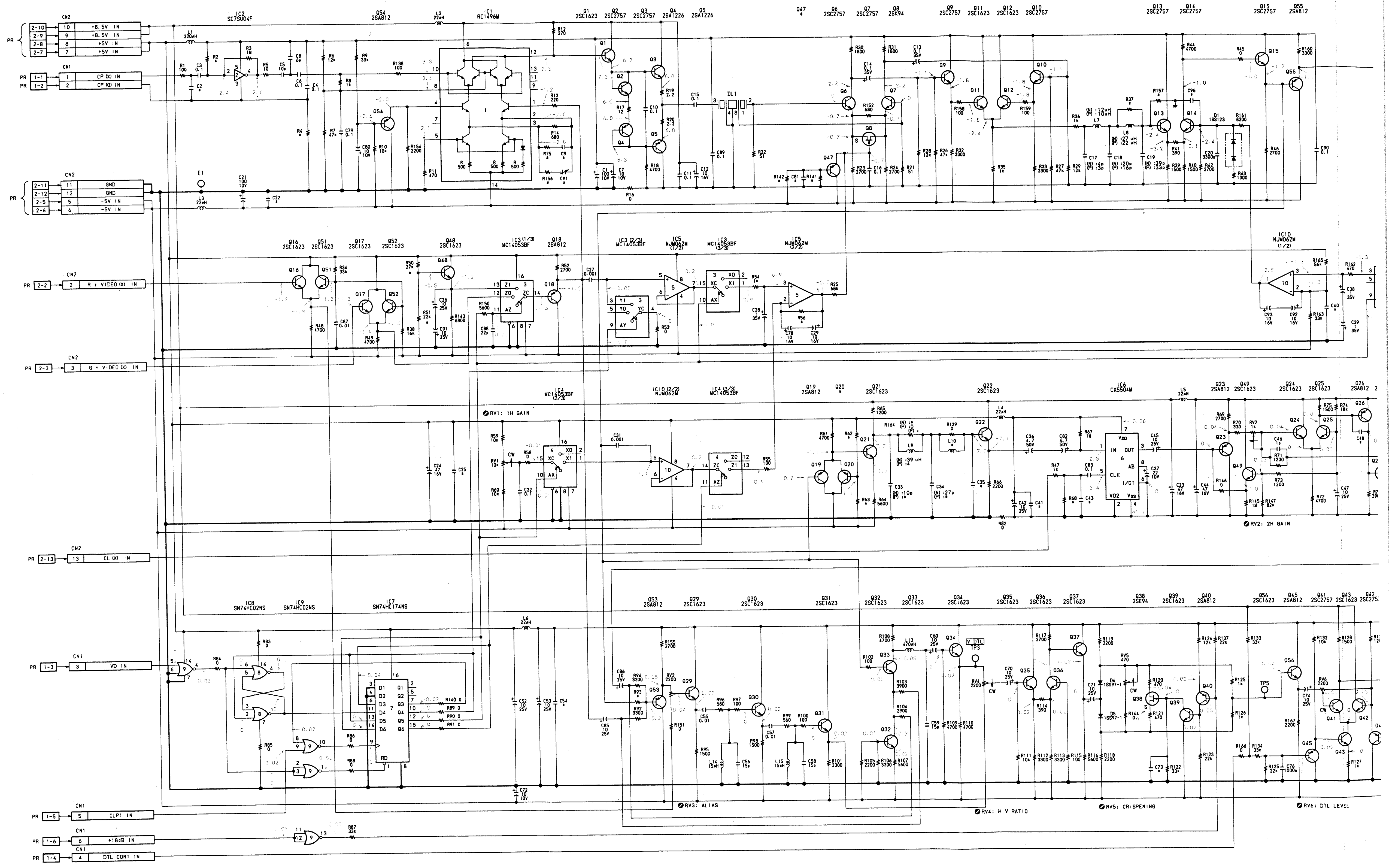
IC1-12 pin

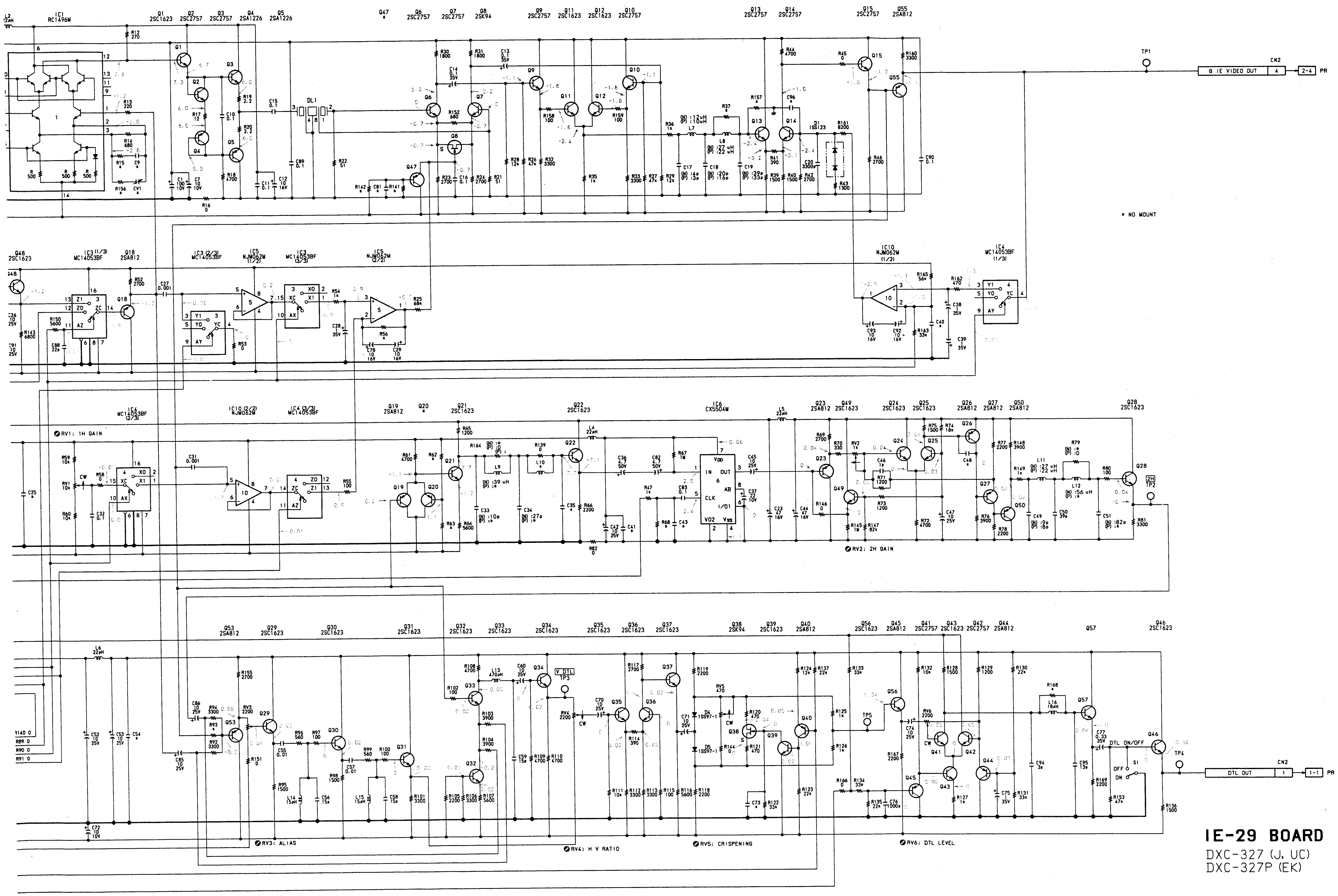


TP4



IE-29 BOARD


CN2
2-10 10 +8.5V IN
2-9 9 +8.5V IN
2-8 8 +5V IN
2-7 7 +5V IN
CN1
1-1 1 CP (X) IN
1-2 2 CP (G) IN
PR
CN2
2-11 11 GND
2-12 12 GND
2-5 5 -5V IN
2-6 6 -5V IN
E1
2-2 2 R + VIDEO (X) IN
2-3 3 G + VIDEO (X) IN
2-13 13 CL (X) IN
CN1
1-3 3 VD IN
1-5 5 CLP1 IN
1-6 6 +18dB IN
1-4 4 DTL CONT IN
IC2 SC7SU04F
Q54 2SA812
L2 22μH
IC1 RC1496M
Q1 2SC1623
Q2 2SC2757
Q3 2SC2757
Q4 2SA1226
Q5 2SA1226
Q47
Q6 2SC2757
Q7 2SC2757
Q8 2SK94
Q9 2SC2757
Q11 2SC1623
Q12 2SC1623
Q10 2SC2757
Q13 2SC2757
Q14 2SC2757
Q15 2SC2757
Q55 2SA812
DL1
D1 1SS123
Q16 2SC1623
Q51 2SC1623
Q17 2SC1623
Q52 2SC1623
Q48 2SC1623
IC3 (1/3) MC14053BF
Q18 2SA812
IC3 (2/3) MC14053BF
IC5 NJM062M (1/2)
IC3 (3/3) MC14053BF
IC5 NJM062M (2/2)
IC10 NJM062M (1/2)
IC4 MC14053BF (2/3)
RV1: 1H GAIN
IC10 (2/2) NJM062M
IC4 (3/3) MC14053BF
Q19 2SA812
Q20
Q21 2SC1623
Q22 2SC1623
IC6 CXS504M
Q23 2SA812
Q49 2SC1623
Q24 2SC1623
Q25 2SC1623
Q26 2SA812
RV2: 2H GAIN
IC8 SN74HC02NS
IC9 SN74HC02NS
IC7 SN74HC174NS
Q53 2SA812
Q29 2SC1623
Q30 2SC1623
Q31 2SC1623
Q32 2SC1623
Q33 2SC1623
Q34 2SC1623
Q35 2SC1623
Q36 2SC1623
Q37 2SC1623
Q38 2SK94
Q39 2SC1623
Q40 2SA812
Q56 2SC1623
Q45 2SA812
Q41 2SC2757
Q43 2SC1623
Q42
V DTL TP3
TP5
RV3: ALIAS
RV4: H V RATIO
RV5: CRISPENING
RV6: DTL LEVEL


IC1 RC1496M
Q1 2SC1623
Q2 2SC2757
Q3 2SC2757
Q4 2SA1226
Q5 2SA1226
Q47
Q6 2SC2757
Q7 2SC2757
Q8 2SK94
Q9 2SC2757
Q11 2SC1623
Q12 2SC1623
Q10 2SC2757
Q13 2SC2757
Q14 2SC2757
Q15 2SC2757
Q55 2SA812
DL1
D1 1SS123
TP1
CN2
B IE VIDEO OUT
2-4 PR
* NO MOUNT
Q48 2SC1623
IC3 (1/3) MC14053BF
Q18 2SA812
IC3 (2/3) MC14053BF
IC5 NJM062M (1/2)
IC3 (3/3) MC14053BF
IC5 NJM062M (2/2)
IC10 NJM062M (1/2)
IC4 MC14053BF (1/3)
IC4 MC14053BF (2/3)
RV1: 1H GAIN
IC10 (2/2) NJM062M
IC4 (3/3) MC14053BF
Q19 2SA812
Q20
Q21 2SC1623
Q22 2SC1623
IC6 CX5504M
Q23 2SA812
Q49 2SC1623
Q24 2SC1623
Q25 2SC1623
Q26 2SA812
Q27 2SA812
Q50 2SA812
Q28 2SC1623
TP2 2H
RV2: 2H GAIN
Q53 2SA812
Q29 2SC1623
Q30 2SC1623
Q31 2SC1623
Q32 2SC1623
Q33 2SC1623
Q34 2SC1623
V DTL TP3
Q35 2SC1623
Q36 2SC1623
Q37 2SC1623
Q38 2SK94
Q39 2SC1623
Q40 2SA812
Q56 2SC1623
Q45 2SA812
Q41 2SC2757
Q43 2SC1623
Q42 2SC2757
Q44 2SA812
Q57
Q46 2SC1623
TP4
TP5
DTL ON/OFF
S1 OFF ON
DTL OUT
1-1 PR
RV3: ALIAS
RV4: H V RATIO
RV5: CRISPENING
RV6: DTL LEVEL

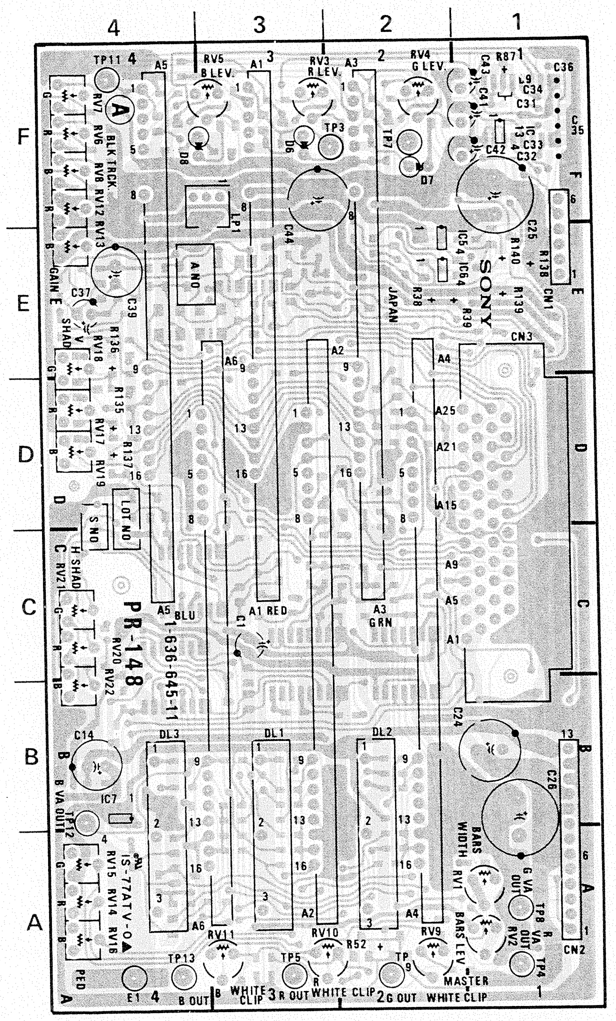
IE-29 BOARD

DXC-327 (J, UC)
DXC-327P (EK)

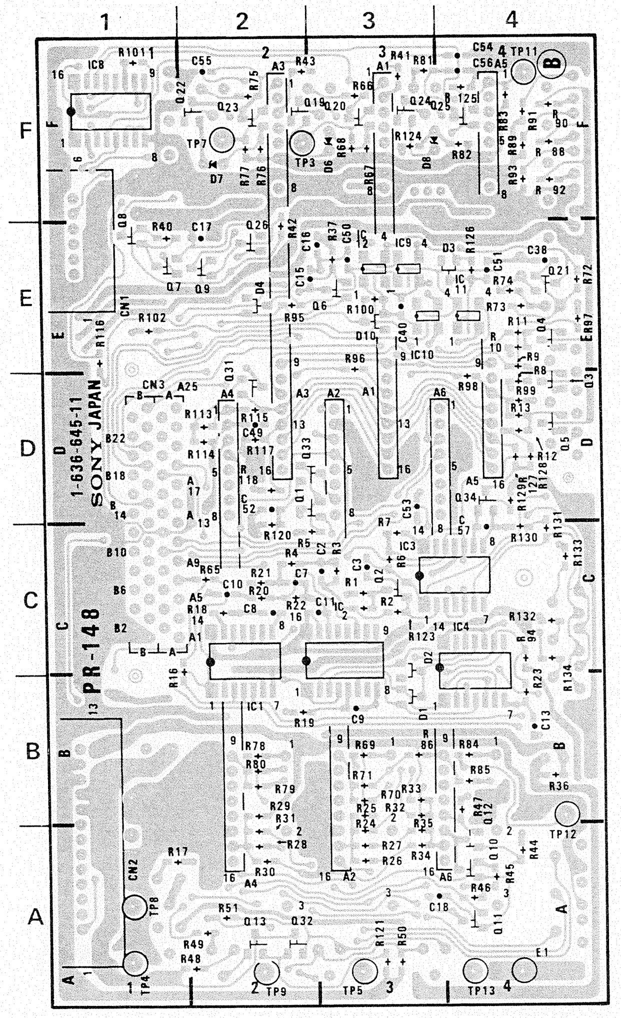
PR-148 BOARD

PR-148 (1-636-645-11)

CN1	E-1
CN2	A-1
CN3	E-1
DL1	B-3
DL2	B-2
DL3	B-4
D3	E-4
D4	E-2
D6	F-3
D7	F-2
D8	F-4
D9	F-1
D10	E-3
E1	A-4
IC1	B-2
IC2	C-3
IC3	C-3
IC4	C-4
IC5	E-1
IC6	E-1
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-3
IC11	E-4
IC12	E-3
IC13	F-1
LP1	F-3
Q1	D-2
Q2	C-3
Q3	D-4
Q4	E-4
Q5	D-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	B-4
Q13	A-2
Q19	F-3
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	A-2
Q33	D-2
Q34	D-4
RV1	A-2
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
RV17	D-4
RV18	E-4
RV19	D-4
RV20	C-4
RV21	C-4
RV22	C-4
TP3	F-2
TP4	A-1
TP5	A-3
TP7	F-2
TP8	A-1
TP9	A-2
TP11	F-4
TP12	B-4
TP13	A-4


4
3
2
1
F
E
D
C
B
A
PR-148
1-636-645-11
SONY
JAPAN
R LEV
B LEV
G LEV
BLK TRCK
GAIN
SHAD
H SHAD
S NO
LOT NO
A5 BLU
A1 RED
A3 GRN
DL1
DL2
DL3
BARS WIDTH
BARS LEV
MASTER
WHITE CLIP
B OUT
R OUT
G OUT
VA OUT
PED
TP13
TP5
TP11
TP12
CN1
CN2
CN3
E1

1-636-645-11 COMPONENT SIDE

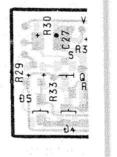

1
2
3
4
F
E
D
C
B
A
PR-148
1-636-645-11
SONY JAPAN
TP3
TP4
TP7
TP8
TP9
TP5
TP11
TP12
TP13
CN1
CN2
CN3
E1

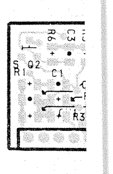
1-636-645-11 SOLDERING SIDE

PR-148 (1-636-645-11)

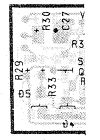
CN1	E-1
CN2	A-1
CN3	E-1
DL1	B-3
DL2	B-2
DL3	B-4
D3	E-4
D4	E-2
D6	F-3
D7	F-2
D8	F-4
D9	F-1
D10	E-3
E1	A-4
IC1	B-2
IC2	C-3
IC3	C-3
IC4	C-4
IC5	E-1
IC6	E-1
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-3
IC11	E-4
IC12	E-3
IC13	F-1
LP1	F-3
Q1	D-2
Q2	C-3
Q3	D-4
Q4	E-4
Q5	D-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	B-4
Q13	A-2
Q19	F-3
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	A-2
Q33	D-2
Q34	D-4
RV1	A-2
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
RV17	D-4
RV18	E-4
RV19	D-4
RV20	C-4
RV21	C-4
RV22	C-4
TP3	F-2
TP4	A-1
TP5	A-3
TP7	F-2
TP8	A-1
TP9	A-2
TP11	F-4
TP12	B-4
TP13	A-4

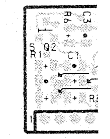
VA-1C



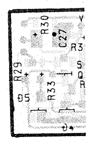


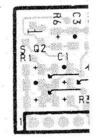
VA-1C

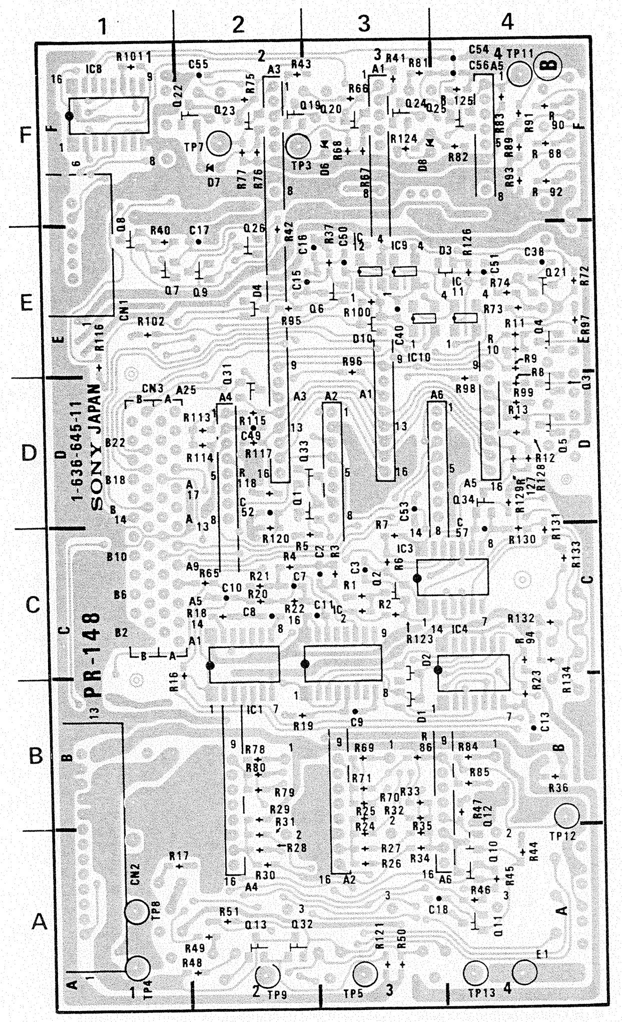




VA-1C



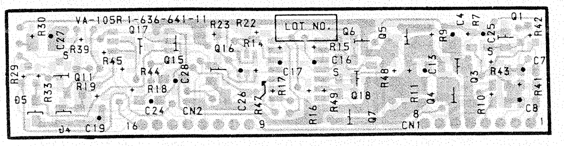



1
2
3
4
F
E
D
C
B
A
PR-148
1-636-645-11
SONY JAPAN
TP4
TP9
TP5
TP13
TP12
TP8
TP3
TP7
TP11
E1

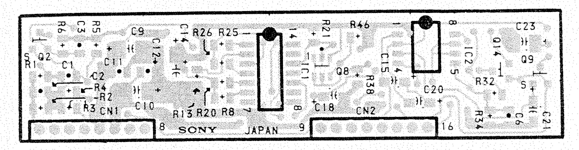
1-636-645-11 SOLDERING SIDE

PR-148 (1-636-645-11)	
CN1	E-1
CN2	A-1
CN3	E-1
DL1	B-3
DL2	B-2
DL3	B-4
D3	E-4
D4	E-2
D6	F-3
D7	F-2
D8	F-4
D9	F-1
D10	E-3
E1	A-4
IC1	B-2
IC2	C-3
IC3	C-3
IC4	C-4
IC5	E-1
IC6	E-1
IC7	B-4
IC8	F-1
IC9	E-3
IC10	E-3
IC11	E-4
IC12	E-3
IC13	F-1
LP1	F-3
Q1	D-2
Q2	C-3
Q3	D-4
Q4	E-4
Q5	D-4
Q6	E-3
Q7	E-1
Q8	E-1
Q9	E-2
Q10	A-4
Q11	A-4
Q12	B-4
Q13	A-2
Q19	F-3
Q20	F-3
Q21	E-4
Q22	F-2
Q23	F-2
Q24	F-3
Q25	F-4
Q26	E-2
Q31	D-2
Q32	A-2
Q33	D-2
Q34	D-4
RV1	A-2
RV2	A-1
RV3	F-3
RV4	F-2
RV5	F-3
RV6	F-4
RV7	F-4
RV8	F-4
RV9	A-2
RV10	A-3
RV11	A-3
RV12	F-4
RV13	E-4
RV14	A-4
RV15	A-4
RV16	A-4
RV17	D-4
RV18	E-4
RV19	D-4
RV20	C-4
RV21	C-4
RV22	C-4
TP3	F-2
TP4	A-1
TP5	A-3
TP7	F-2
TP8	A-1
TP9	A-2
TP11	F-4
TP12	B-4
TP13	A-4

VA-105R BOARD

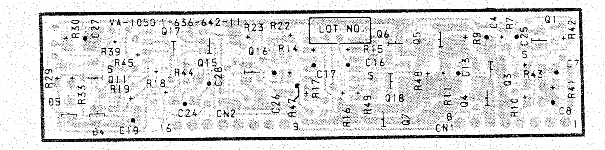

VA-105R 1-636-641-11
LOT NO.
CN1
CN2

1-636-641-11 COMPONENT SIDE

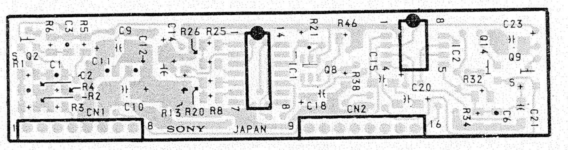

SONY JAPAN
CN1
CN2

1-636-641-11 SOLDERING SIDE

VA-105G BOARD

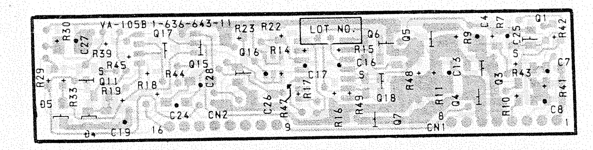

VA-105G 1-636-642-11
LOT NO.
CN1
CN2

1-636-642-11 COMPONENT SIDE

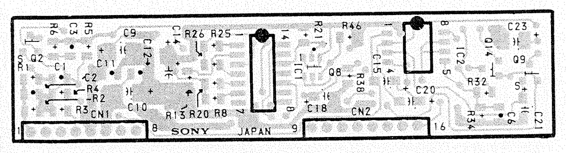

SONY JAPAN
CN1
CN2

1-636-642-11 SOLDERING SIDE

VA-105B BOARD

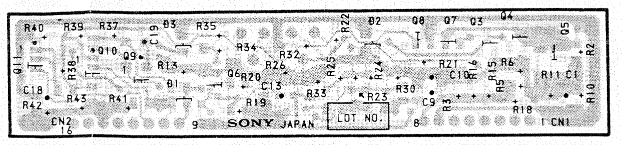

VA-105B 1-636-643-11
LOT NO.
CN1
CN2

1-636-643-11 COMPONENT SIDE

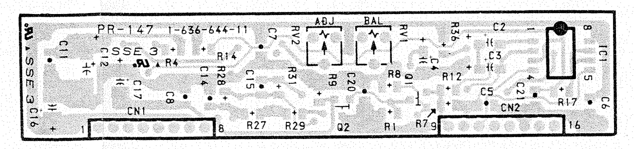

SONY JAPAN
CN1
CN2

1-636-643-11 SOLDERING SIDE

PR-147R/G/B BOARD


SONY JAPAN
LOT NO.
CN1
CN2

1-636-644-11 COMPONENT SIDE


PR-147 1-636-644-11
ABJ
BAL
CN1
CN2

1-636-644-11 SOLDERING SIDE

PR-148 BOARD

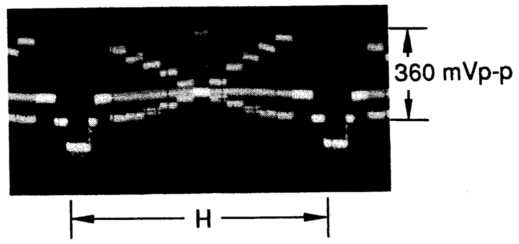
注意:

1. DC電圧はデジタル電圧計による値。
2. 波形写真、及びDC電圧は下記条件での測定。
   - グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが100 IREになる様にレンズ絞りをセットする。
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : OFF

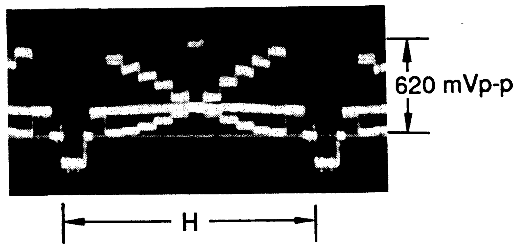
NOTE:

1. All voltage are DC, measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Shoot the grayscale chart. Adjust lens iris so that a white level is 100 IRE on the waveform monitor.
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : OFF

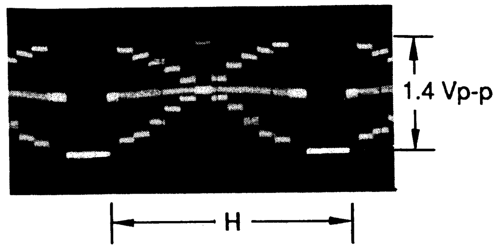
TP3



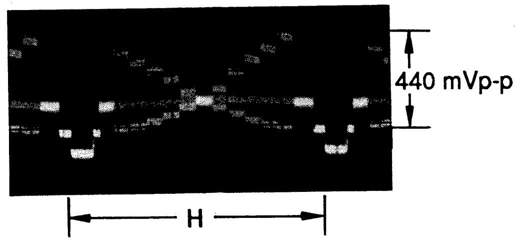
TP4



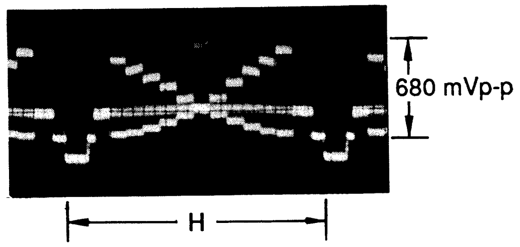
TP5



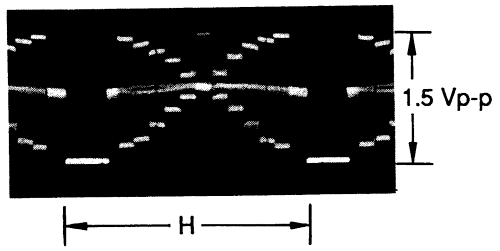
TP7



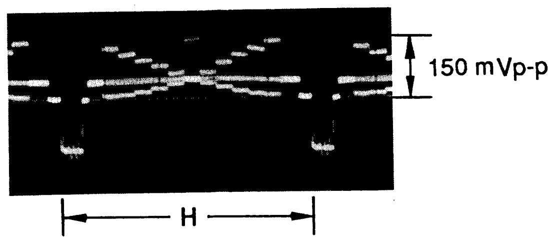
TP8



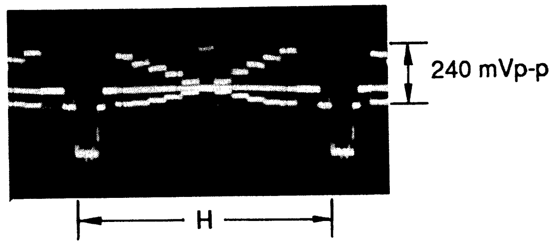
TP9



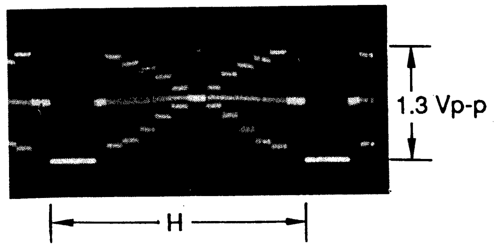
TP11



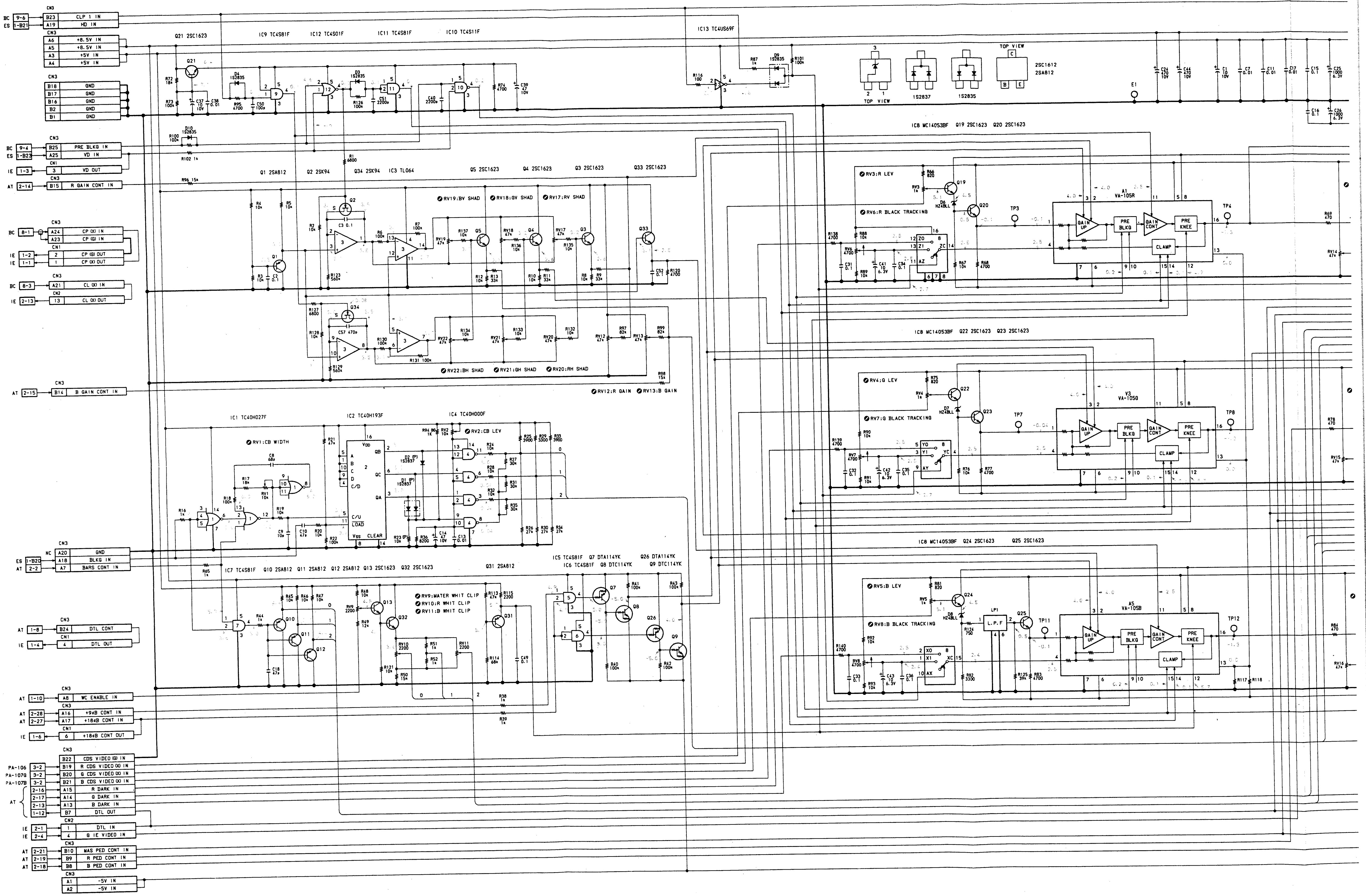
TP12



TP13

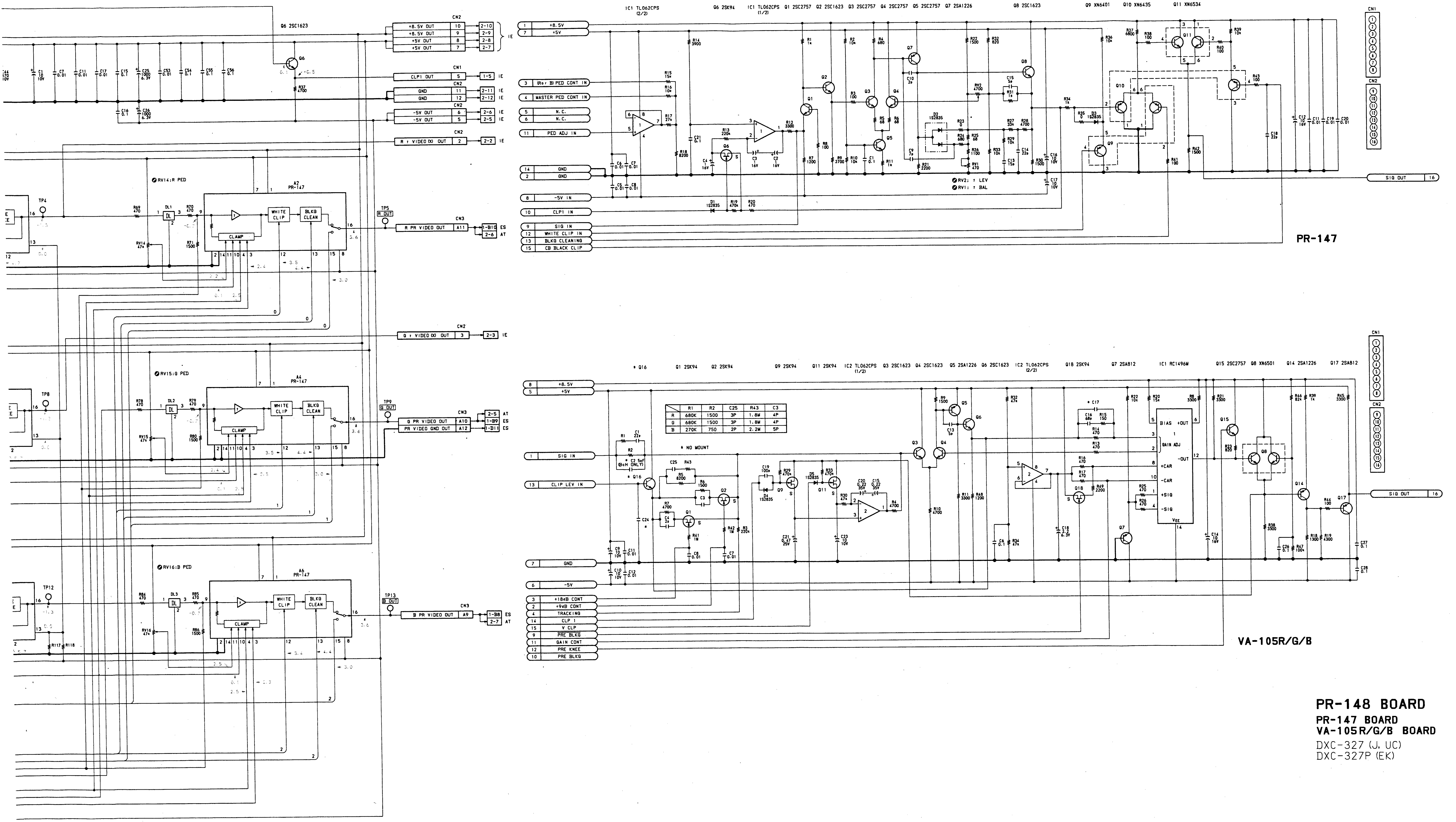


PR-148 BOARD
VA-105R/G/B BOARD
PR-147R/G/B BOARD


CLP 1 IN
HD IN
+8.5V IN
+8.5V IN
+5V IN
+5V IN
GND
PRE BLKG IN
VD IN
VD OUT
R GAIN CONT IN
CP (X) IN
CP (G) IN
CP (G) OUT
CP (X) OUT
CL (X) IN
CL (X) OUT
B GAIN CONT IN
GND
BLKG IN
BARS CONT IN
DTL CONT
DTL OUT
WC ENABLE IN
+9dB CONT IN
+18dB CONT IN
+18dB CONT OUT
CDS VIDEO (G) IN
R CDS VIDEO (X) IN
G CDS VIDEO (X) IN
B CDS VIDEO (X) IN
R DARK IN
G DARK IN
B DARK IN
DTL OUT
DTL IN
G IE VIDEO IN
MAS PED CONT IN
R PED CONT IN
B PED CONT IN
-5V IN
-5V IN
Q21 2SC1623
IC9 TC4S81F
IC12 TC4S01F
IC11 TC4S81F
IC10 TC4S11F
IC13 TC4US69F
Q1 2SA812
Q2 2SK94
Q34 2SK94
IC3 TL064
Q5 2SC1623
Q4 2SC1623
Q3 2SC1623
Q33 2SC1623
RV19:BV SHAD
RV18:GV SHAD
RV17:RV SHAD
RV22:BH SHAD
RV21:GH SHAD
RV20:RH SHAD
RV12:R GAIN
RV13:B GAIN
IC1 TC40H027F
IC2 TC40H193F
IC4 TC40H000F
RV1:CB WIDTH
RV2:CB LEV
IC7 TC4S81F
Q10 2SA812
Q11 2SA812
Q12 2SA812
Q13 2SC1623
Q32 2SC1623
Q31 2SA812
RV9:MATER WHIT CLIP
RV10:R WHIT CLIP
RV11:B WHIT CLIP
IC5 TC4S81F
Q7 DTA114YK
IC6 TC4S81F
Q8 DTC114YK
Q26 DTA114YK
Q9 DTC114YK
TOP VIEW
1S2837
1S2835
2SC1612
2SA812
IC8 MC14053BF
Q19 2SC1623
Q20 2SC1623
RV3:R LEV
RV6:R BLACK TRACKING
A1 VA-105R
GAIN UP
PRE BLKG
GAIN CONT
PRE KNEE
CLAMP
TP3
TP4
IC8 MC14053BF
Q22 2SC1623
Q23 2SC1623
RV4:G LEV
RV7:G BLACK TRACKING
V3 VA-105G
TP7
TP8
IC8 MC14053BF
Q24 2SC1623
Q25 2SC1623
RV5:B LEV
RV8:B BLACK TRACKING
A5 VA-105B
LP1 L.P.F
TP11
TP12
E1

DXC-327 (J, UC)
DXC-327P (EK)

A | B | C | D | E | F | G


Q6 2SC1623
CN2
+8.5V OUT 10 2-10
+8.5V OUT 9 2-9
+5V OUT 8 2-8
+5V OUT 7 2-7
IE
CN1
CLP1 OUT 5 1-5 IE
CN2
GND 11 2-11 IE
GND 12 2-12 IE
CN2
-5V OUT 6 2-6 IE
-5V OUT 5 2-5 IE
CN2
R γ VIDEO (X) OUT 2 2-2 IE
RV14:R PED
A2 PR-147
WHITE CLIP
BLKG CLEAN
CLAMP
TP4
TP5 R OUT
CN3
R PR VIDEO OUT A11 1-B10 ES 2-6 AT
CN2
G γ VIDEO (X) OUT 3 2-3 IE
RV15:G PED
A4 PR-147
TP8
TP9 G OUT
CN3
G PR VIDEO OUT A10 2-5 AT 1-B9 ES
PR VIDEO GND OUT A12 1-B11 ES
RV16:B PED
A6 PR-147
TP12
TP13 B OUT
CN3
B PR VIDEO OUT A9 1-B8 ES 2-7 AT
IC1 TL062CPS (2/2)
Q6 2SK94
IC1 TL062CPS (1/2)
Q1 2SC2757
Q2 2SC1623
Q3 2SC2757
Q4 2SC2757
Q5 2SC2757
Q7 2SA1226
Q8 2SC1623
Q9 XN6401
Q10 XN6435
Q11 XN6534
1 +8.5V
7 +5V
3 (R or B) PED CONT IN
4 MASTER PED CONT IN
5 N.C.
6 N.C.
11 PED ADJ IN
14 GND
2 GND
8 -5V IN
10 CLP1 IN
9 SIG IN
12 WHITE CLIP IN
13 BLKG CLEANING
15 CB BLACK CLIP
RV2: γ LEV
RV1: γ BAL
SIG OUT 16
CN1
CN2
PR-147
* Q16
Q1 2SK94
Q2 2SK94
Q9 2SK94
Q11 2SK94
IC2 TL062CPS (1/2)
Q3 2SC1623
Q4 2SC1623
Q5 2SA1226
Q6 2SC1623
IC2 TL062CPS (2/2)
Q18 2SK94
Q7 2SA812
IC1 RC1496M
Q15 2SC2757
Q8 XN6501
Q14 2SA1226
Q17 2SA812
* NO MOUNT
* C2 5pF (B.G.H ONLY)
8 +8.5V
5 +5V
1 SIG IN
13 CLIP LEV IN
7 GND
6 -5V
3 +18dB CONT
2 +9dB CONT
4 TRACKING
14 CLP 1
15 V CLP
9 PRE BLKG
11 GAIN CONT
12 PRE KNEE
10 PRE BLKG
BIAS +OUT
GAIN ADJ
-OUT
+CAR
-CAR
+SIG
-SIG
VEE
SIG OUT 16
VA-105R/G/B
1
2
3
4
5
6
G
H
I
J
K
L
M

	R1	R2	C25	R43	C3
R	680K	1500	3P	1.8M	4P
G	680K	1500	3P	1.8M	4P
B	270K	750	2P	2.2M	5P

PR-148 BOARD
PR-147 BOARD
VA-105R/G/B BOARD

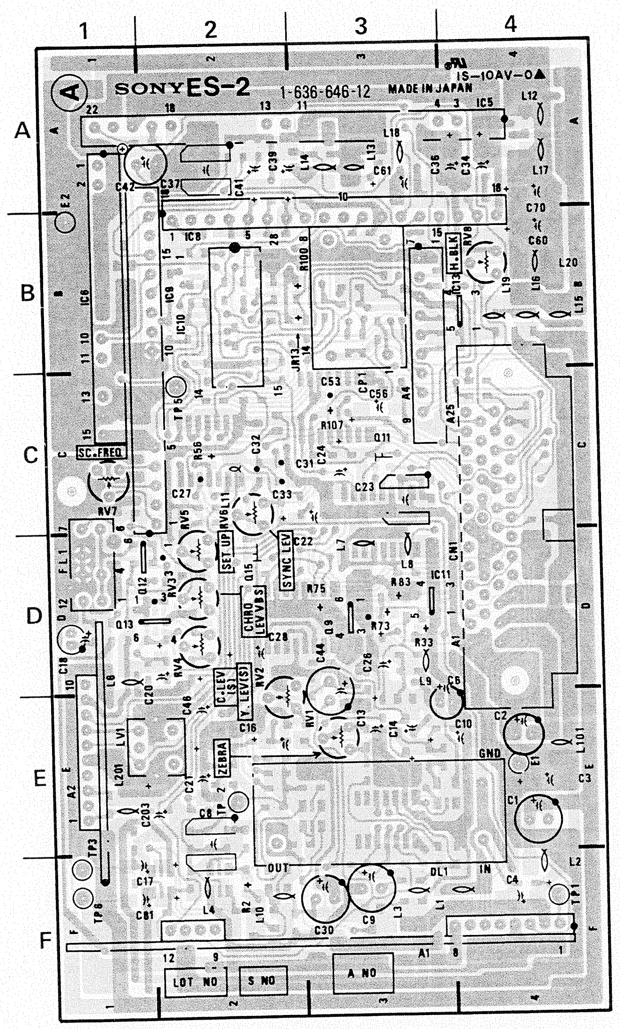
DXC-327 (J, UC)
DXC-327P (EK)

B-DXC327-PR148/M

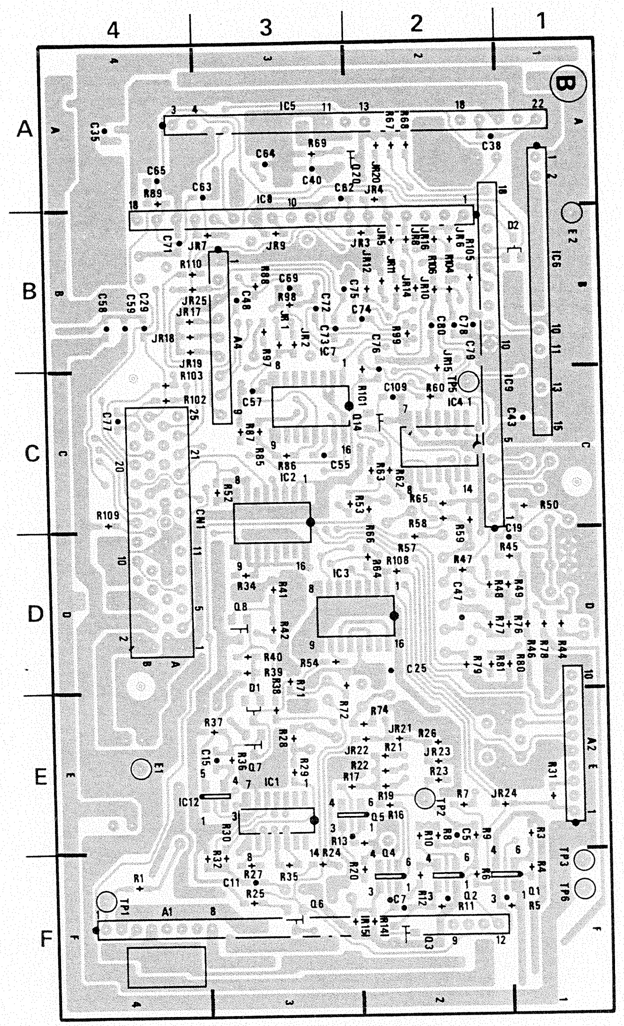
ES-2 BOARD

ES-2 (1-636-646-12)

CN1	D-4
DL1	F-3
D1	D-3
D2	B-1
E1	E-4
FL1	D-1
IC1	E-3
IC2	C-3
IC3	D-3
IC4	C-2
IC5	A-4
IC6	B-1
IC7	B-3
IC8	B-2
IC9	B-2
IC10	B-2
IC11	D-3
IC12	E-4
IC13	B-4
JR2	B-3
JR3	B-2
JR4	A-2
JR6	B-2
JR8	B-2
JR9	B-3
JR13	B-3
JR14	B-2
JR15	B-2
JR18	B-4
JR20	A-2
JR22	E-2
JR23	E-2
LV1	E-1
Q1	F-1
Q2	F-2
Q3	F-2
Q4	F-2
Q5	E-2
Q6	F-3
Q7	E-3
Q8	D-3
Q9	D-3
Q11	C-3
Q12	D-1
Q13	D-1
Q14	C-2
Q15	D-2
Q20	A-2
RV1	E-3
RV2	D-2
RV3	D-2
RV4	D-2
RV5	C-2
RV6	C-2
RV7	C-1
RV8	B-4
TP1	F-4
TP2	E-2
TP5	C-2


1
2
3
4
A
B
C
D
E
F
SONY ES-2
1-636-646-12
MADE IN JAPAN
SC.FREQ
SET UP
SYNC LEV
CHRO LEV
C.LEV
ZEBRA
GND
OUT
IN
LOT NO
S NO
A NO

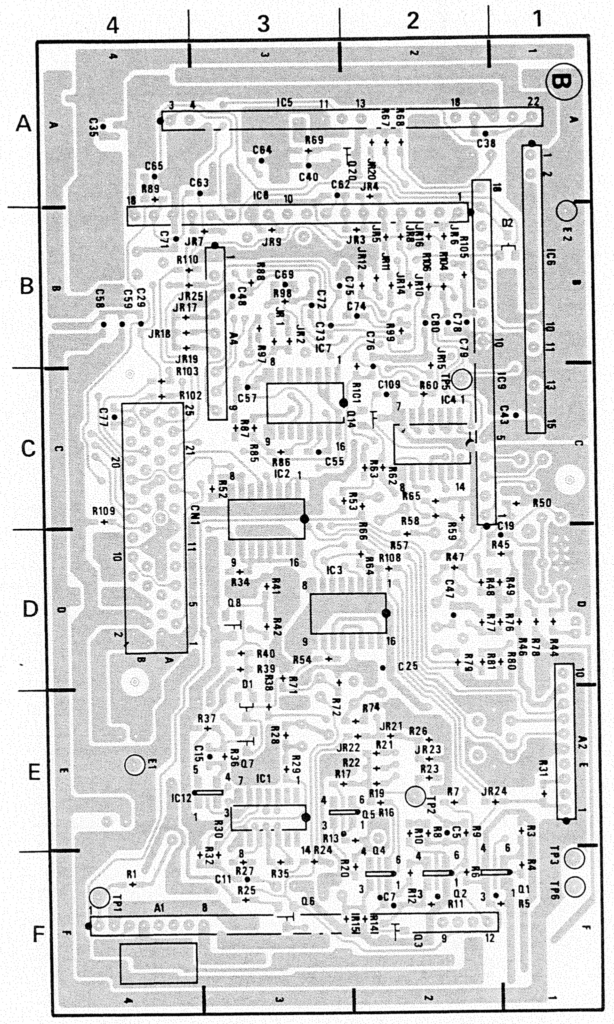
1-636-646-12 COMPONENT SIDE


4
3
2
1
A
B
C
D
E
F

1-636-646-12 SOLDERING SIDE

ES-2 (1-636-646-12)

CN1	D-4
DL1	F-3
D1	D-3
D2	B-1
E1	E-4
FL1	D-1
IC1	E-3
IC2	C-3
IC3	D-3
IC4	C-2
IC5	A-4
IC6	B-1
IC7	B-3
IC8	B-2
IC9	B-2
IC10	B-2
IC11	D-3
IC12	E-4
IC13	B-4
JR2	B-3
JR3	B-2
JR4	A-2
JR6	B-2
JR8	B-2
JR9	B-3
JR13	B-3
JR14	B-2
JR15	B-2
JR18	B-4
JR20	A-2
JR22	E-2
JR23	E-2
LV1	E-1
Q1	F-1
Q2	F-2
Q3	F-2
Q4	F-2
Q5	E-2
Q6	F-3
Q7	E-3
Q8	D-3
Q9	D-3
Q11	C-3
Q12	D-1
Q13	D-1
Q14	C-2
Q15	D-2
Q20	A-2
RV1	E-3
RV2	D-2
RV3	D-2
RV4	D-2
RV5	C-2
RV6	C-2
RV7	C-1
RV8	B-4
TP1	F-4
TP2	E-2
TP5	C-2

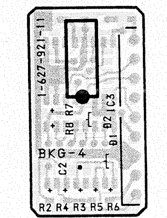

4
3
2
1
A
B
C
D
E
F
B
IC5
IC6
IC7
IC8
IC9
IC2
IC3
IC4
IC1
IC12
CN1
D1
D2
E1
TP1
TP2
TP3
TP5
A1
A2
A4

1-636-646-12 SOLDERING SIDE

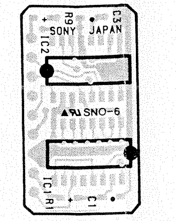
ES-2 (1-636-646-12)

CN1	D-4	TP1	F-4
		TP2	E-2
DL1	F-3	TP5	C-2
D1	D-3		
D2	B-1		
E1	E-4		
FL1	D-1		
IC1	E-3		
IC2	C-3		
IC3	D-3		
IC4	C-2		
IC5	A-4		
IC6	B-1		
IC7	B-3		
IC8	B-2		
IC9	B-2		
IC10	B-2		
IC11	D-3		
IC12	E-4		
IC13	B-4		
JR2	B-3		
JR3	B-2		
JR4	A-2		
JR6	B-2		
JR8	B-2		
JR9	B-3		
JR13	B-3		
JR14	B-2		
JR15	B-2		
JR18	B-4		
JR20	A-2		
JR22	E-2		
JR23	E-2		
LV1	E-1		
Q1	F-1		
Q2	F-2		
Q3	F-2		
Q4	F-2		
Q5	E-2		
Q6	F-3		
Q7	E-3		
Q8	D-3		
Q9	D-3		
Q11	C-3		
Q12	D-1		
Q13	D-1		
Q14	C-2		
Q15	D-2		
Q20	A-2		
RV1	E-3		
RV2	D-2		
RV3	D-2		
RV4	D-2		
RV5	C-2		
RV6	C-2		
RV7	C-1		
RV8	B-4		

BKG-4 BOARD (NTSC ONLY)

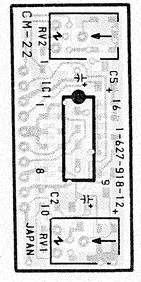

1-627-921-11
BKG-4
R2 R4 R3 R5 R6

1-627-921-11 COMPONENT SIDE

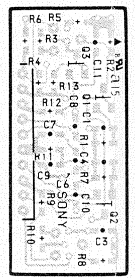

SONY JAPAN
SNO-6
IC1
IC2

1-627-921-11 SOLDERING SIDE

CM-22 BOARD

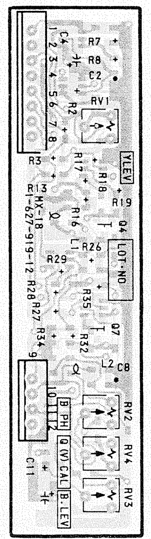

CM-22
RV2
RV1
IC1
1-627-918-12
JAPAN

1-627-918-12 COMPONENT SIDE

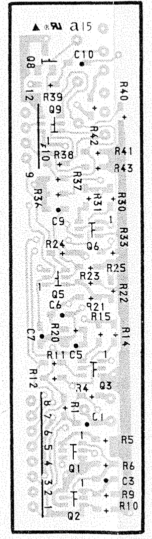

R6 R5
R3
R4
SONY
C3
R8

1-627-918-12 SOLDERING SIDE

MX-18 BOARD


MX-18
1-627-919-12
RV1
RV2
RV3
RV4
Y LEV
LOT-NO

1-627-919-12 COMPONENT SIDE


C10
R40
R41
R43
Q1
Q2
Q3
R5
R6
C3
R9
R10

1-627-919-12 SOLDERING SIDE

ES-2 BOARD

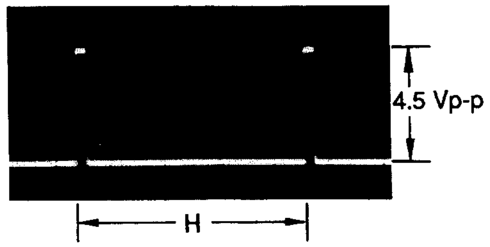
注意:

1. DC電圧はデジタル電圧計による値。
2. 波形写真、及びDC電圧は下記条件での測定。
   - グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが100 IREになる様にレンズ絞りをセットする。
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : ON

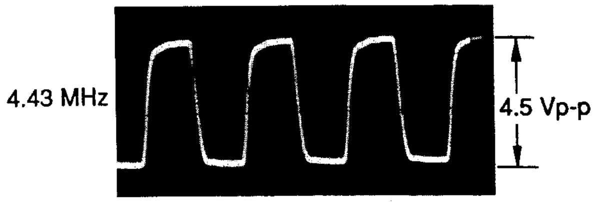
NOTE:

1. All voltage are DC, measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Shoot the grayscale chart. Adjust lens iris so that a white level is 100 IRE on the waveform monitor.
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : ON

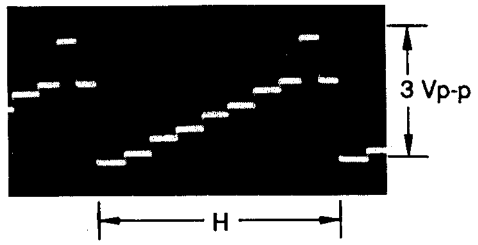
MX-18 12 pin



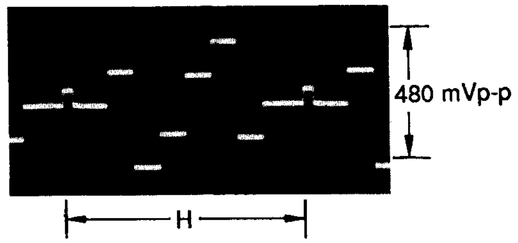
TP5



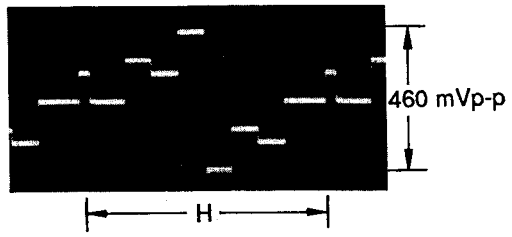
TP1



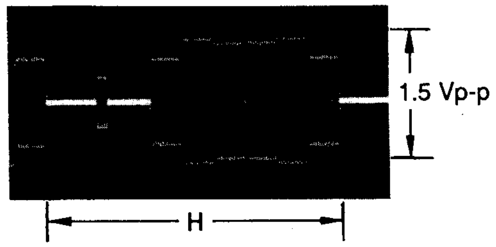
TP3



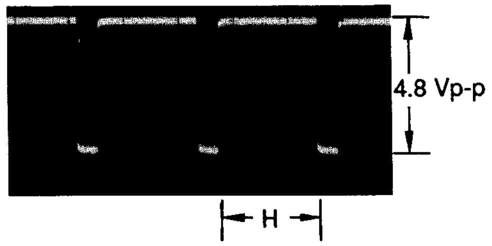
TP6



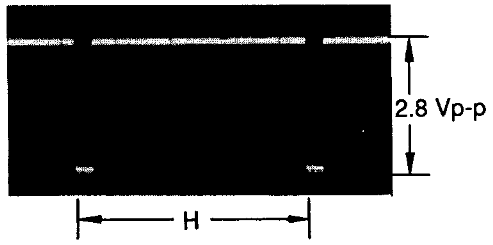
TP4



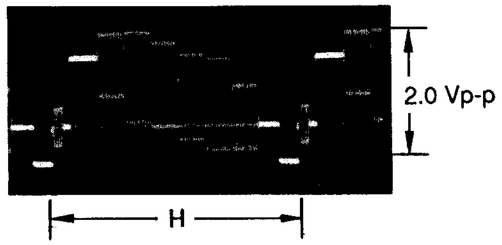
CN1-B20 pin



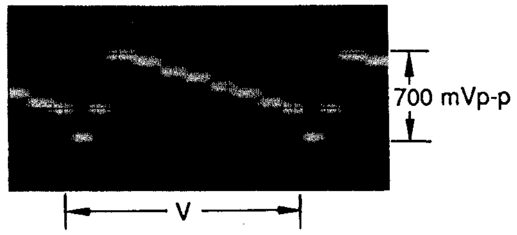
CN1-A21 pin



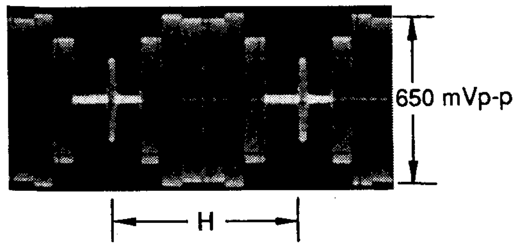
TP2 (VIDEO OUT)



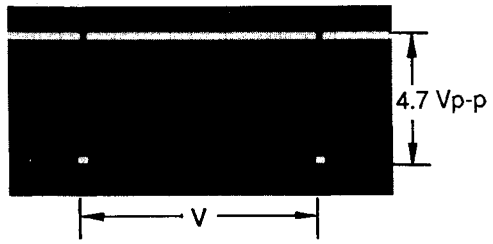
A9



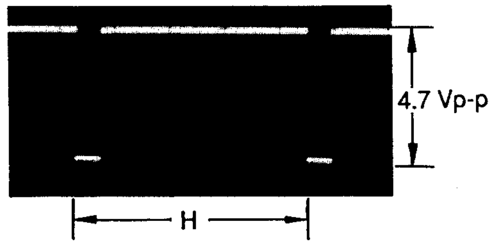
CN1-A11 pin



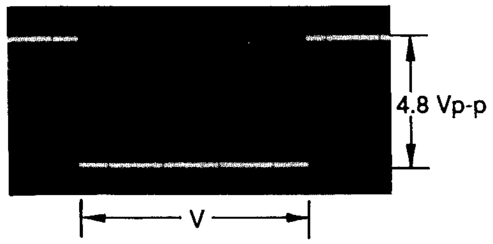
CN1-B23 pin



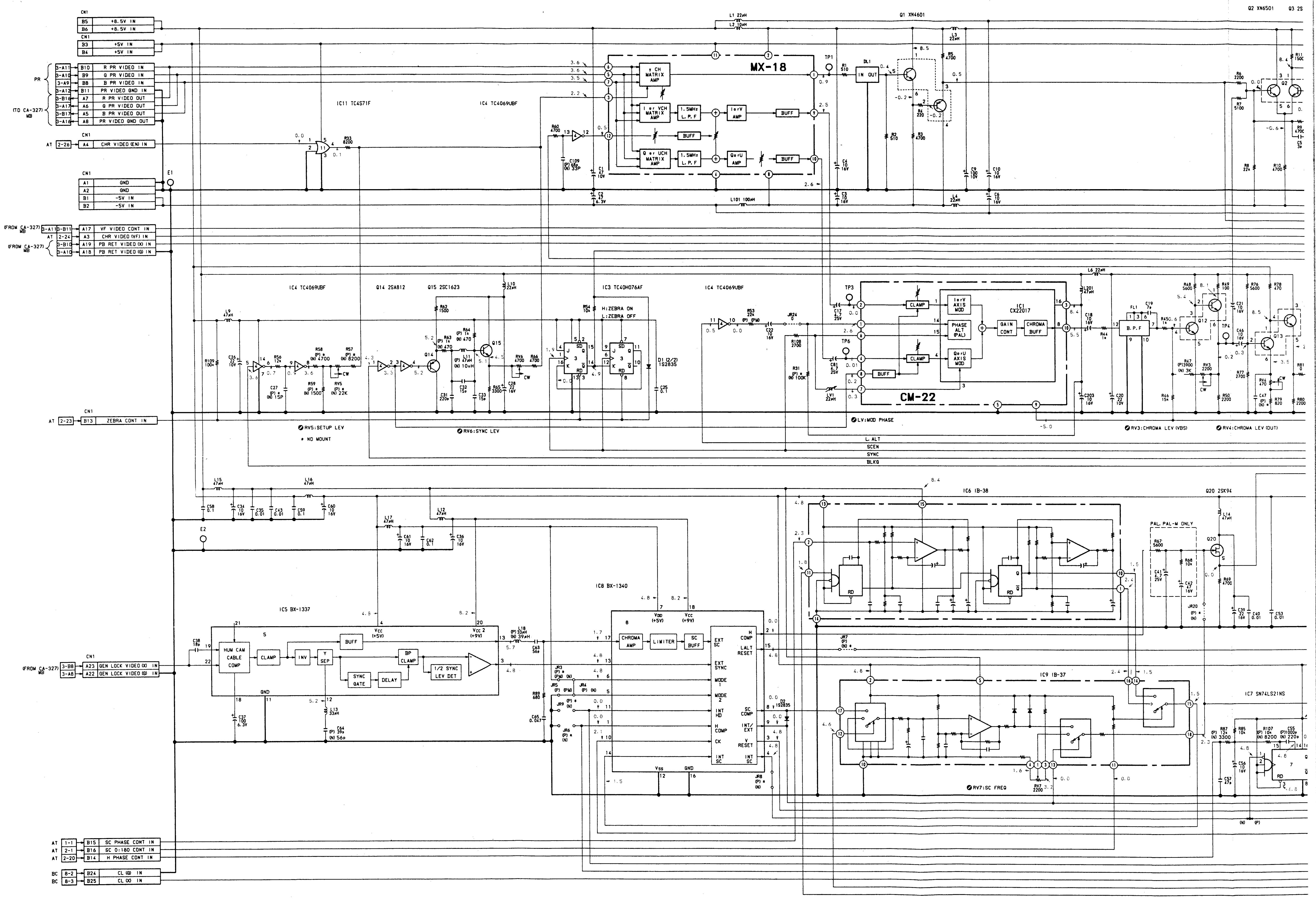
CN1-B21 pin



CN1-A24 pin

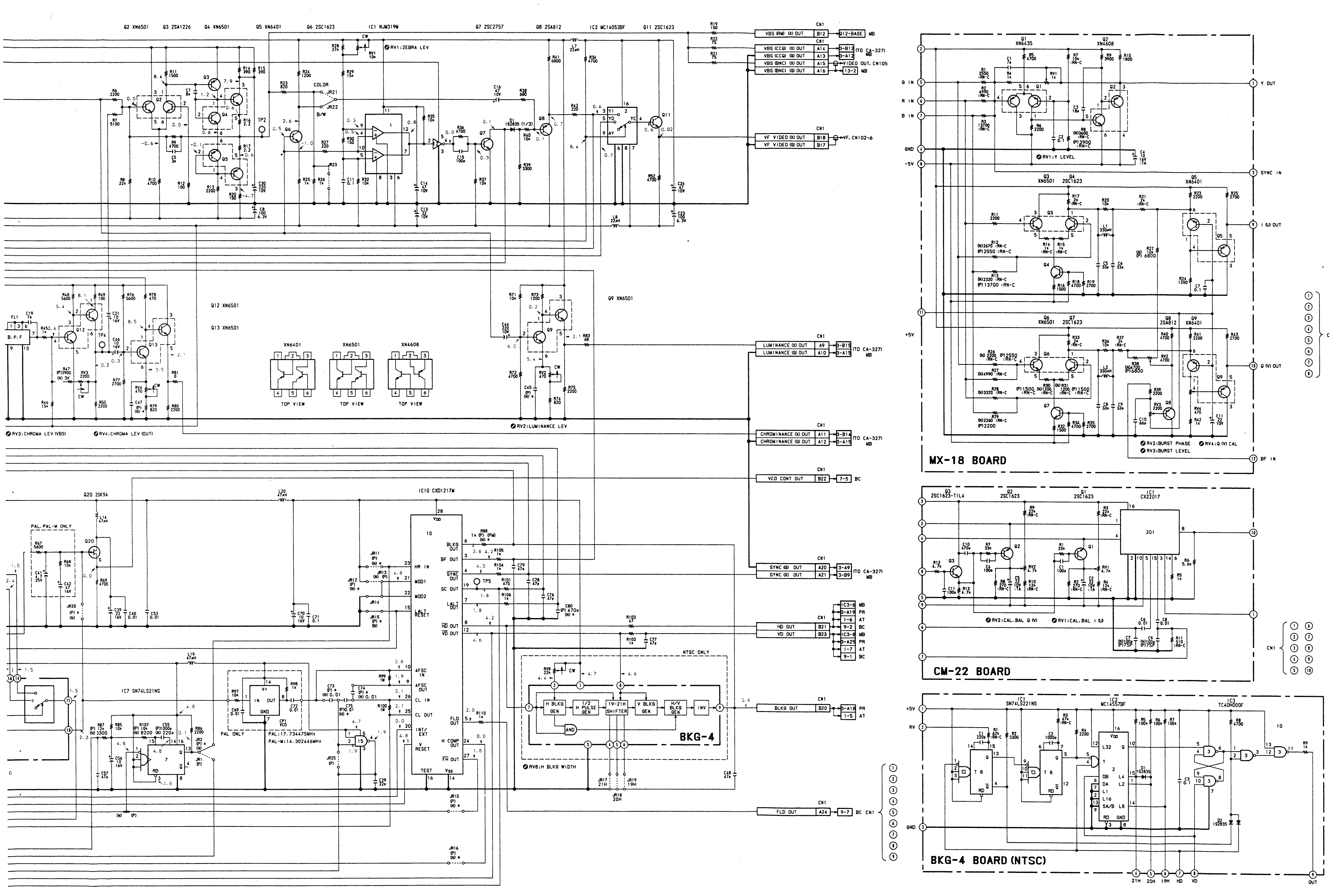


ES-2 BOARD
BKG-4 BOARD
CM-22 BOARD
MX-18 BOARD


CN1
+8.5V IN
+5V IN
R PR VIDEO IN
G PR VIDEO IN
B PR VIDEO IN
PR VIDEO GND IN
R PR VIDEO OUT
G PR VIDEO OUT
B PR VIDEO OUT
PR VIDEO GND OUT
PR
(TO CA-327) MB
CHR VIDEO (EN) IN
GND
-5V IN
VF VIDEO CONT IN
CHR VIDEO (VF) IN
PB RET VIDEO (K) IN
PB RET VIDEO (G) IN
(FROM CA-327) MB
ZEBRA CONT IN
GEN LOCK VIDEO (K) IN
GEN LOCK VIDEO (G) IN
SC PHASE CONT IN
SC 0:180 CONT IN
H PHASE CONT IN
CL (G) IN
CL (K) IN
E1
E2
IC11 TC4S71F
IC4 TC4069UBF
MX-18
Y CH MATRIX AMP
I or VCH MATRIX AMP
Q or UCH MATRIX AMP
1.5MHz L.P.F
I or V AMP
Q or U AMP
BUFF
Q1 XN4601
Q2 XN6501
DL1
IN OUT
TP1
Q14 2SA812
Q15 2SC1623
IC3 TC40H076AF
H:ZEBRA ON
L:ZEBRA OFF
D1 (2/2) 1S2835
RV5:SETUP LEV
* NO MOUNT
RV6:SYNC LEV
TP3
TP6
CM-22
CLAMP
I or V AXIS MOD
PHASE ALT (PAL)
Q or U AXIS MOD
IC1 CX22017
GAIN CONT
CHROMA BUFF
LV:MOD PHASE
FL1
B.P.F
Q12
Q13
TP4
RV3:CHROMA LEV (VBS)
RV4:CHROMA LEV (OUT)
L.ALT
SCEN
SYNC
BLKG
IC6 IB-38
Q20 2SK94
PAL, PAL-M ONLY
IC5 BX-1337
HUM CAN CABLE COMP
CLAMP
INV
Y SEP
BUFF
SYNC GATE
DELAY
BP CLAMP
1/2 SYNC LEV DET
IC8 BX-1340
CHROMA AMP
LIMITER
SC BUFF
EXT SC
EXT SYNC
MODE 1
MODE 2
INT HD
H COMP
CK
INT SC
LALT RESET
SC COMP
INT/EXT
V RESET
IC9 IB-37
RV7:SC FREQ
IC7 SN74LS21NS

DXC-327 (J, UC)
DXC-327P (EK)

A | B | C | D | E | F | G


Q2 XN6501
Q3 2SA1226
Q4 XN6501
Q5 XN6401
Q6 2SC1623
IC1 NJM319M
Q7 2SC2757
Q8 2SA812
IC2 MC14053BF
Q11 2SC1623
RV1:ZEBRA LEV
COLOR
B/W
TP2
CN1
VBS (RM) (K) OUT
VBS (CCU) (K) OUT
VBS (CCU) (U) OUT
VBS (BNC) (K) OUT
VBS (BNC) (U) OUT
(TO CA-327) MB
VIDEO OUT, CN105
VF VIDEO (K) OUT
VF VIDEO (U) OUT
VF, CN102-6
Q12 XN6501
Q13 XN6501
Q9 XN6501
B.P.F
XN6401
XN6501
XN4608
TOP VIEW
RV3:CHROMA LEV (VBS)
RV4:CHROMA LEV (OUT)
RV2:LUMINANCE LEV
LUMINANCE (K) OUT
LUMINANCE (U) OUT
CHROMINANCE (K) OUT
CHROMINANCE (U) OUT
VCO CONT OUT
SYNC (U) OUT
SYNC (K) OUT
HD OUT
VD OUT
BLKG OUT
FLD OUT
Q20 2SK94
PAL, PAL-M ONLY
IC10 CXD1217M
HR IN
MOD1
MOD2
LALT RESET
4FSC IN
4FSC OUT
CL IN
CL OUT
INT/EXT
V RESET
TEST
BLKG OUT
BF OUT
SYNC OUT
SC OUT
LALT OUT
HD OUT
VD OUT
FLD OUT
H COMP OUT
FH OUT
TP5
IC7 SN74LS21NS
PAL ONLY
CP1 VCO
PAL:17.734475MHz
PAL-M:14.302446MHz
NTSC ONLY
H BLKG GEN
1/2 H PULSE GEN
19-21H SHIFTER
V BLKG GEN
H/V BLKG GEN
INV
AND
BKG-4
RV8:H BLKG WIDTH
JR17 21H
JR19 19H
JR18 20H
MX-18 BOARD
Q1 XN6435
Q2 XN4608
Q IN
R IN
B IN
GND
-5V
Y OUT
SYNC IN
RV1:Y LEVEL
Q3 XN6501
Q4 2SC1623
Q5 XN6401
I (U) OUT
Q6 XN6501
Q7 2SC1623
Q8 2SA812
Q9 XN6401
Q (V) OUT
+5V
BF IN
RV2:BURST PHASE
RV3:BURST LEVEL
RV4:Q (V) CAL
CN1
CN2
CM-22 BOARD
Q3 2SC1623-T1L4
Q2 2SC1623
Q1 2SC1623
IC1 CX22017
RV2:CAL.BAL Q (V)
RV1:CAL.BAL I (U)
BKG-4 BOARD (NTSC)
IC1 SN74LS221NS
IC2 MC14557BF
IC3 TC40H000F
RV
21H
20H
19H
HD
VD
OUT

ES-2N/2P BOARD

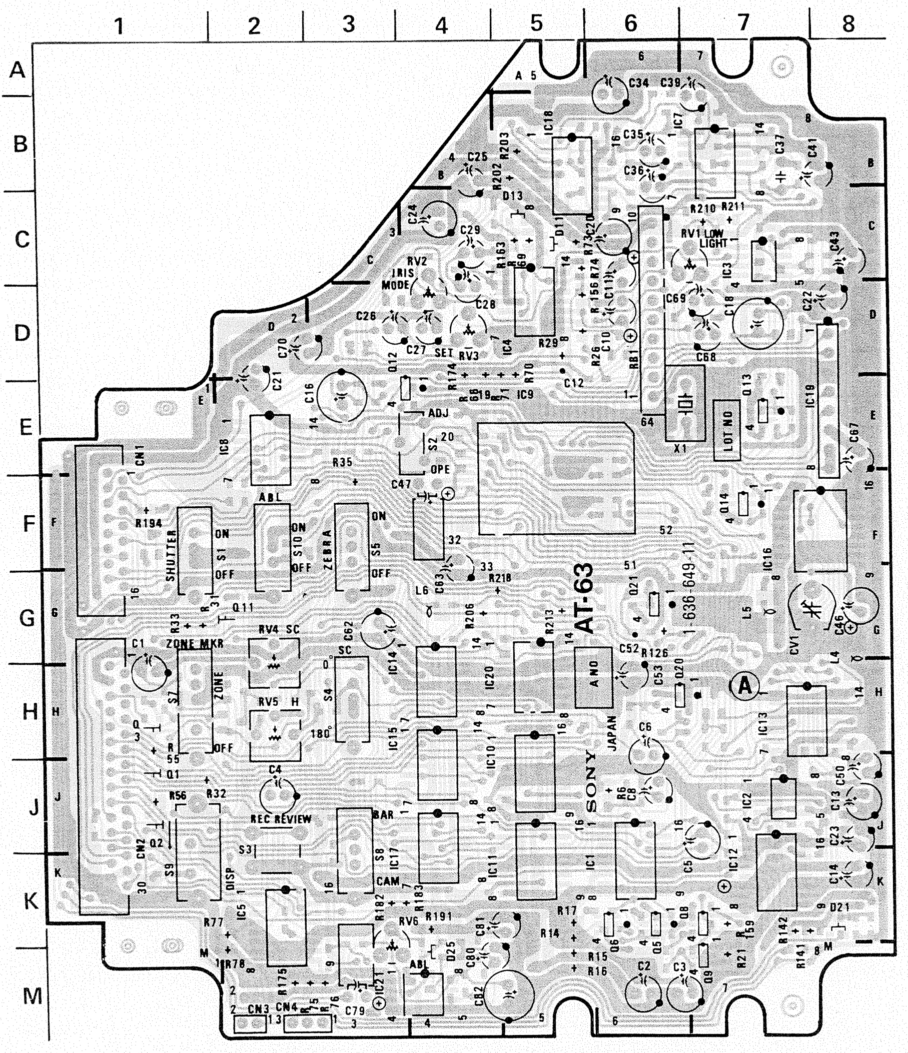
CM-22 BOARD
BKG-4 BOARD (J, UC)
MX-18 BOARD

DXC-327 (J, UC)
DXC-327P (EK)

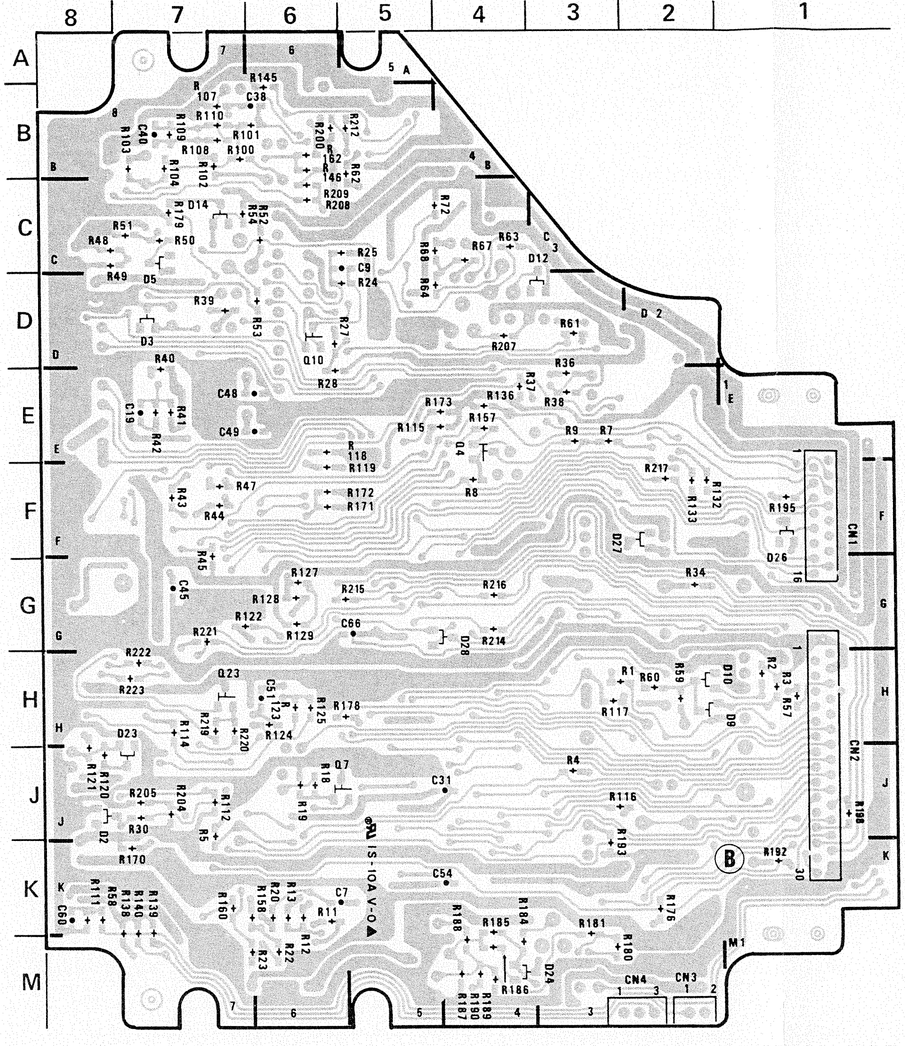
AT-63 BOARD

AT-63 (1-636-649-11)

CN1	E-1
CN2	J-1
CN3	M-2
CN4	M-2
CV1	G-8
D2	J-8
D3	D-8
D5	D-7
D9	H-1
D10	H-1
D11	C-5
D12	C-3
D13	C-5
D14	C-7
D21	K-8
D23	H-8
D24	M-3
D25	M-4
D26	F-1
D27	F-3
D28	G-4
IC1	K-5
IC2	J-7
IC3	C-7
IC4	D-5
IC5	K-2
IC7	B-7
IC8	E-2
IC9	E-5
IC10	J-4
IC11	K-4
IC12	K-7
IC13	H-7
IC14	H-3
IC15	H-3
IC16	F-7
IC17	K-3
IC18	B-5
IC19	E-8
IC20	H-4
IC21	M-3
Q1	J-1
Q2	J-1
Q3	H-1
Q4	E-4
Q5	M-6
Q6	M-6
Q7	J-6
Q8	K-6
Q9	M-7
Q10	D-6
Q11	G-2
Q12	D-3
Q13	E-7
Q14	F-7
Q20	H-6
Q21	G-6
Q23	H-7
RB1	D-6
RV1	C-7
RV2	C-4
RV3	D-4
RV4	G-2
RV5	H-2
RV6	K-3
S1	F-2
S2	E-4
S3	J-2
S4	H-3
S5	F-3
S7	H-1
S8	J-3
S9	K-1
S10	F-2
X1	E-6



1-636-649-11 COMPONENT SIDE



1-636-649-11 SOLDERING SIDE

AT-63 (1-636-649-11)

CN1	E-1
CN2	J-1
CN3	M-2
CN4	M-2
CV1	G-8
D2	J-8
D3	D-8
D5	D-7
D9	H-1
D10	H-1
D11	C-5
D12	C-3
D13	C-5
D14	C-7
D21	K-8
D23	H-8
D24	M-3
D25	M-4
D26	F-1
D27	F-3
D28	G-4
IC1	K-5
IC2	J-7
IC3	C-7
IC4	D-5
IC5	K-2
IC7	B-7
IC8	E-2
IC9	E-5
IC10	J-4
IC11	K-4
IC12	K-7
IC13	H-7
IC14	H-3
IC15	H-3
IC16	F-7
IC17	K-3
IC18	B-5
IC19	E-8
IC20	H-4
IC21	M-3
Q1	J-1
Q2	J-1
Q3	H-1
Q4	E-4
Q5	M-6
Q6	M-6
Q7	J-6
Q8	K-6
Q9	M-7
Q10	D-6
Q11	G-2
Q12	D-3
Q13	E-7
Q14	F-7
Q20	H-6
Q21	G-6
Q23	H-7
RB1	D-6
RV1	C-7
RV2	C-4
RV3	D-4
RV4	G-2
RV5	H-2
RV6	K-3
S1	F-2
S2	E-4
S3	J-2
S4	H-3
S5	F-3
S7	H-1
S8	J-3
S9	K-1
S10	F-2
X1	E-6

AT-63 BOARD

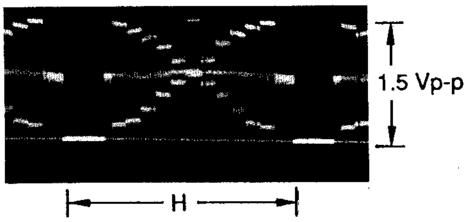
注意:

1. DC電圧はデジタル電圧計による値。
2. 波形写真、及びDC電圧は下記条件での測定。
   - グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが100 IREになる様にレンズ絞りをセットする。
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : OFF

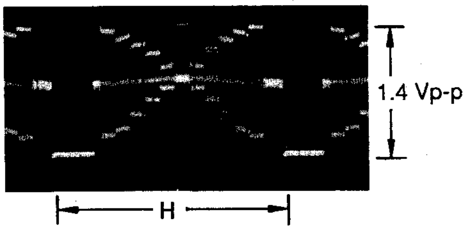
NOTE:

1. All voltage are DC, measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Shoot the grayscale chart. Adjust lens iris so that a white level is 100 IRE on the waveform monitor.
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : OFF

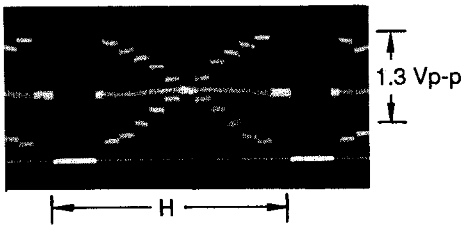
CN2-5 pin



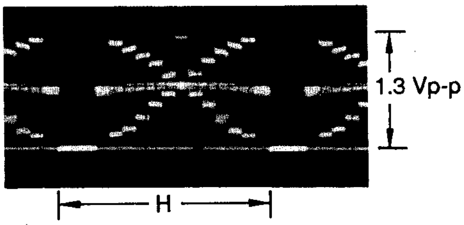
CN2-6 pin



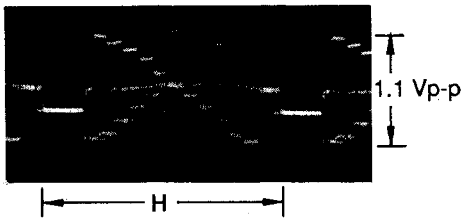
CN2-7 pin



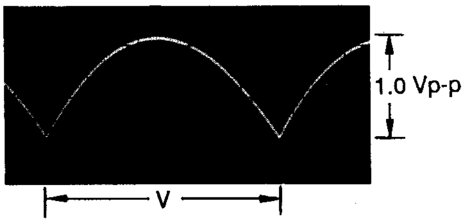
Q11-emitter



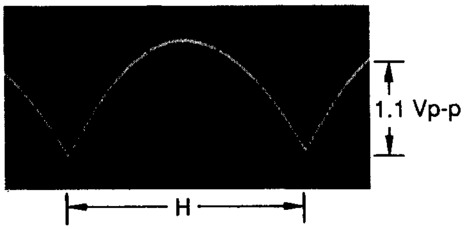
IC4-5 pin



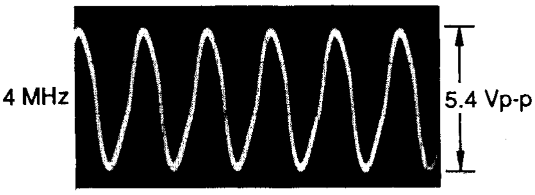
IC7-8 pin



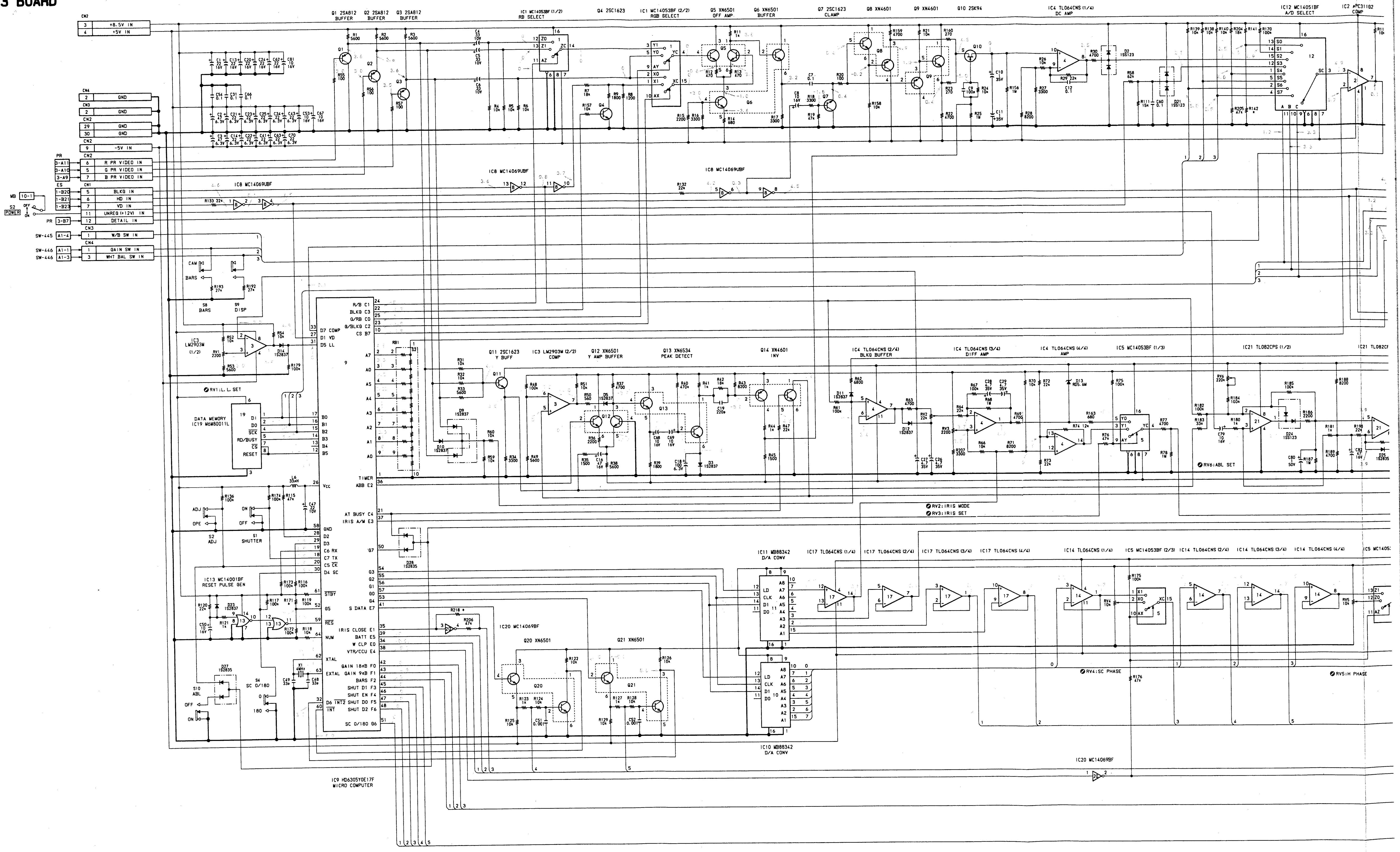
IC7-14 pin



IC9-62 pin



AT-63 BOARD



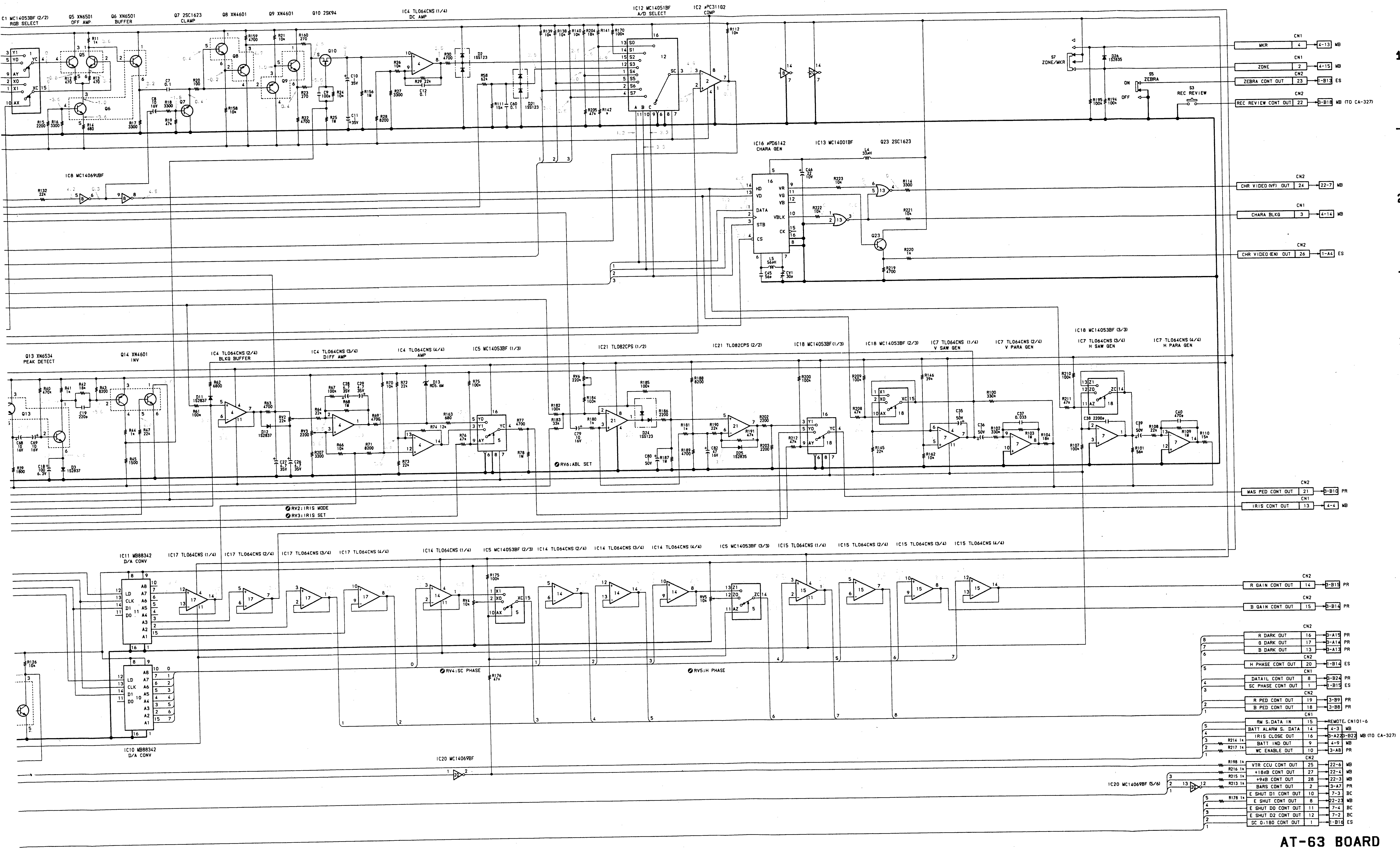
CN2 3 +8.5V IN
4 +5V IN
CN4 2 GND
CN3 2 GND
CN2 29 GND
30 GND
7 GND
9 -5V IN
PR 3-A11 6 R PR VIDEO IN
3-A10 6 G PR VIDEO IN
3-A9 7 B PR VIDEO IN
ES 1-B20 5 BLKG IN
1-B21 6 HD IN
1-B23 7 VD IN
11 UNREG (+12V) IN
PR 3-B7 12 DETAIL IN
MB 10-1
S2 POWER
SW-445 A1-4 1 W/B SW IN
SW-446 A1-1 1 GAIN SW IN
SW-446 A1-3 3 WHT BAL SW IN
Q1 2SA812 BUFFER
Q2 2SA812 BUFFER
Q3 2SA812 BUFFER
IC1 MC14053BF (1/2) RB SELECT
Q4 2SC1623
IC1 MC14053BF (2/2) RGB SELECT
Q5 XN6501 OFF AMP
Q6 XN6501 BUFFER
Q7 2SC1623 CLAMP
Q8 XN4601
Q9 XN4601
Q10 2SK94
IC4 TL064CNS (1/4) DC AMP
IC12 MC14051BF A/D SELECT
IC2 μPC311G2 COMP
IC8 MC14069UBF
S8 BARS
S9 DISP
CAM
BARS
IC3 LM2903M (1/2)
RV1:L.L SET
DATA MEMORY IC19 M6M80011L
IC13 MC14001BF RESET PULSE GEN
S2 ADJ
S1 SHUTTER
S10 ABL
S4 SC 0/180
IC9 HD6305Y0E17F MICRO COMPUTER
R/B C1
BLKG C3
G/RB C0
B/BLKG C2
CS B7
D7 COMP
D1 VD
D5 LL
TIMER
ABB E2
AT BUSY C4
IRIS A/M E3
S DATA E7
IRIS CLOSE E1
BATT E5
W CLP E0
VTR/CCU E4
GAIN 18dB F0
EXTAL GAIN 9dB F1
BARS F2
SHUT D1 F3
SHUT EN F4
D6 INT2 SHUT D0 F5
INT SHUT D2 F6
SC 0/180 G6
Q11 2SC1623 Y BUFF
IC3 LM2903M (2/2) COMP
Q12 XN6501 Y AMP BUFFER
Q13 XN6534 PEAK DETECT
Q14 XN4601 INV
IC4 TL064CNS (2/4) BLKG BUFFER
IC4 TL064CNS (3/4) DIFF AMP
IC4 TL064CNS (4/4) AMP
IC5 MC14053BF (1/3)
IC21 TL082CPS (1/2)
RV2:IRIS MODE
RV3:IRIS SET
RV6:ABL SET
IC20 MC14069BF
Q20 XN6501
Q21 XN6501
IC11 MB88342 D/A CONV
IC10 MB88342 D/A CONV
IC17 TL064CNS (1/4)
IC17 TL064CNS (2/4)
IC17 TL064CNS (3/4)
IC17 TL064CNS (4/4)
IC14 TL064CNS (1/4)
IC5 MC14053BF (2/3)
IC14 TL064CNS (2/4)
IC14 TL064CNS (3/4)
IC14 TL064CNS (4/4)
RV4:SC PHASE
RV5:H PHASE
IC20 MC14069BF

DXC-327 (J, UC)
DXC-327P (EK)

C-51

C-52

A | B | C | D | E | F | G


IC1 MC14053BF (2/2) RGB SELECT
Q5 XN6501 OFF AMP
Q6 XN6501 BUFFER
Q7 2SC1623 CLAMP
Q8 XN4601
Q9 XN4601
Q10 2SK94
IC4 TL064CNS (1/4) DC AMP
IC12 MC14051BF A/D SELECT
IC2 μPC311G2 COMP
IC8 MC14069UBF
IC16 μPD6142 CHARA GEN
IC13 MC14001BF
Q23 2SC1623
S7 ZONE/MKR
D26 1S2835
S5 ZEBRA
ON
OFF
S3 REC REVIEW
R195 100k
R194 100k
CN1 MKR 4 4-13 MB
CN1 ZONE 2 4-15 MB
CN2 ZEBRA CONT OUT 23 1-B13 ES
CN2 REC REVIEW CONT OUT 22 3-B18 MB (TO CA-327)
CN2 CHR VIDEO (VF) OUT 24 22-7 MB
CN1 CHARA BLKG 3 4-14 MB
CN2 CHR VIDEO (EN) OUT 26 1-A4 ES
Q13 XN6534 PEAK DETECT
Q14 XN4601 INV
IC4 TL064CNS (2/4) BLKG BUFFER
IC4 TL064CNS (3/4) DIFF AMP
IC4 TL064CNS (4/4) AMP
IC5 MC14053BF (1/3)
IC21 TL082CPS (1/2)
IC21 TL082CPS (2/2)
IC18 MC14053BF (1/3)
IC18 MC14053BF (2/3)
IC7 TL064CNS (1/4) V SAW GEN
IC7 TL064CNS (2/4) V PARA GEN
IC18 MC14053BF (3/3)
IC7 TL064CNS (3/4) H SAW GEN
IC7 TL064CNS (4/4) H PARA GEN
RV6: ABL SET
RV2: IRIS MODE
RV3: IRIS SET
CN2 MAS PED CONT OUT 21 3-B10 PR
CN1 IRIS CONT OUT 13 4-4 MB
IC11 MB88342 D/A CONV
IC17 TL064CNS (1/4)
IC17 TL064CNS (2/4)
IC17 TL064CNS (3/4)
IC17 TL064CNS (4/4)
IC14 TL064CNS (1/4)
IC5 MC14053BF (2/3)
IC14 TL064CNS (2/4)
IC14 TL064CNS (3/4)
IC14 TL064CNS (4/4)
IC5 MC14053BF (3/3)
IC15 TL064CNS (1/4)
IC15 TL064CNS (2/4)
IC15 TL064CNS (3/4)
IC15 TL064CNS (4/4)
RV4: SC PHASE
RV5: H PHASE
IC10 MB88342 D/A CONV
IC20 MC14069BF
IC20 MC14069BF (5/6)
CN2 R GAIN CONT OUT 14 3-B15 PR
CN2 B GAIN CONT OUT 15 3-B14 PR
CN2 R DARK OUT 16 3-A15 PR
G DARK OUT 17 3-A14 PR
B DARK OUT 13 3-A13 PR
CN2 H PHASE CONT OUT 20 1-B14 ES
CN1 DATAIL CONT OUT 8 3-B24 PR
SC PHASE CONT OUT 1 1-B15 ES
CN2 R PED CONT OUT 19 3-B9 PR
B PED CONT OUT 18 3-B8 PR
CN1 RM S.DATA IN 15 REMOTE. CN101-6
BATT ALARM S. DATA 14 4-3 MB
IRIS CLOSE OUT 16 3-A22 3-B22 MB (TO CA-327)
R214 1k BATT IND OUT 9 4-9 MB
R217 1k WC ENABLE OUT 10 3-A8 PR
CN2 R198 1k VTR CCU CONT OUT 25 22-6 MB
R216 1k +18dB CONT OUT 27 22-4 MB
R215 1k +9dB CONT OUT 28 22-3 MB
R213 1k BARS CONT OUT 2 3-A7 PR
E SHUT D1 CONT OUT 10 7-3 BC
R178 1k E SHUT CONT OUT 8 22-23 MB
E SHUT D0 CONT OUT 11 7-4 BC
E SHUT D2 CONT OUT 12 7-2 BC
SC 0:180 CONT OUT 1 1-B16 ES

1

2

3

4

5

6

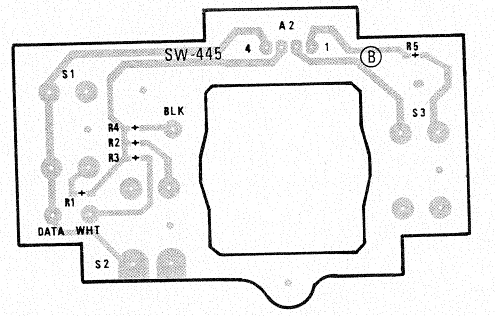
AT-63 BOARD

DXC-327 (J, UC)
DXC-327P (EK)

B-DXC327-AT63/M

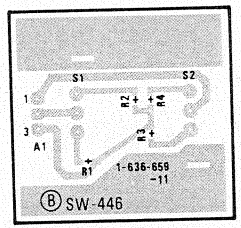
D | E | F | G | H | I

SW-445 BOARD


SW-445
A2
4
1
Ⓑ
R5
S1
S3
BLK
R4
R2
R3
R1
DATA
WHT
S2

1-636-658-11 SOLDERING SIDE

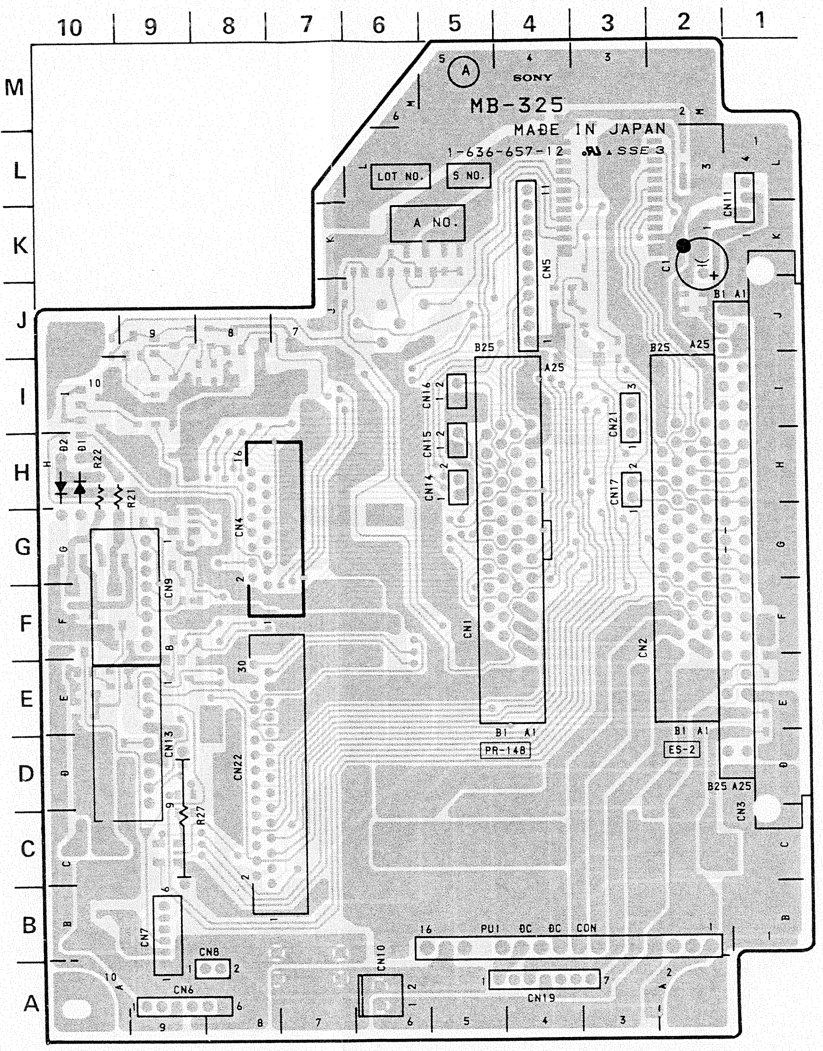
SW-446 BOARD


S1
S2
1
3
A1
R2
R4
R3
R1
1-636-659
-11
Ⓑ SW-446

1-636-659-11 SOLDERING SIDE

MB-325 BOARD

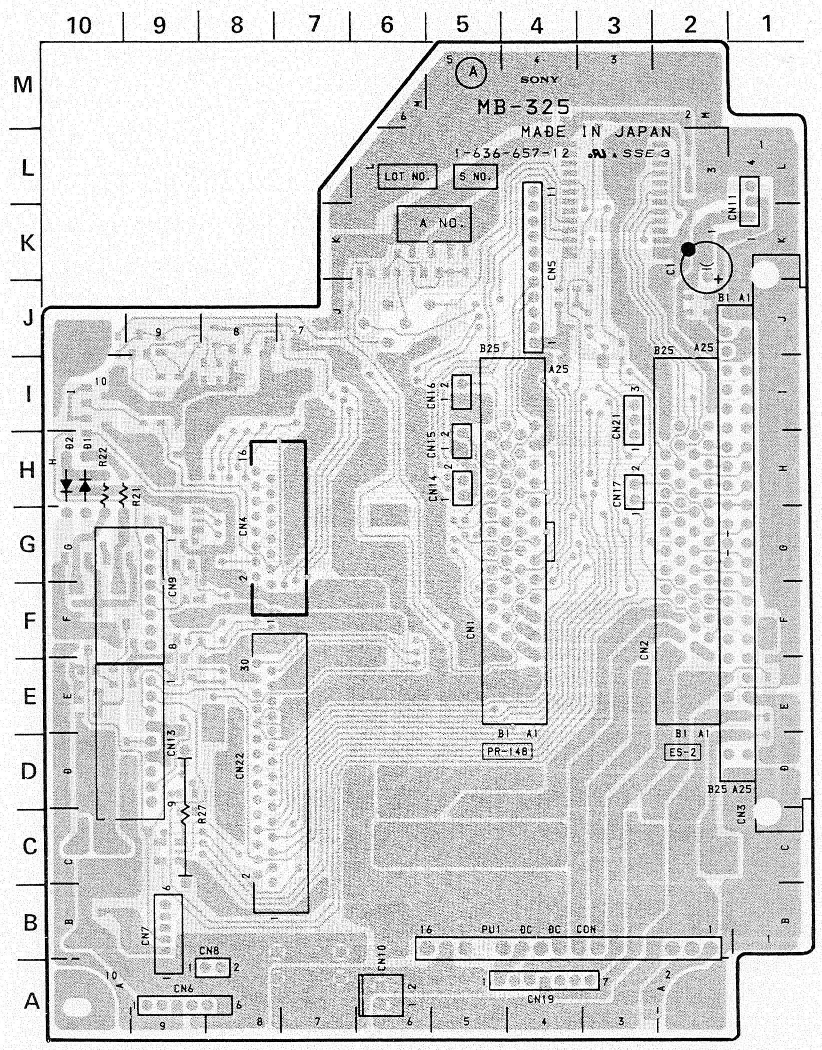
MB-325 (1-636-657-12)	
CN1	F-5
CN2	F-3
CN3	C-1
CN4	G-8
CN5	L-5
CN6	A-9
CN7	B-9
CN8	B-8
CN9	F-9
CN10	A-6
CN11	K-1
CN13	D-9
CN14	H-6
CN15	H-6
CN16	I-6
CN17	H-4
CN19	A-4
CN21	I-4
CN22	D-8
D1	H-10
D2	H-10
D3	E-10
IC1	C-9
IC2	H-9
IC3	K-2
Q1	I-10
Q2	I-10
Q3	G-9
Q4	H-9
Q5	F-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-5
Q11	K-6
Q12	J-8
Q13	I-9
Q14	I-9
S1	J-5
S2	J-7


10
9
8
7
6
5
4
3
2
1
M
L
K
J
I
H
G
F
E
D
C
B
A
Ⓐ
SONY
MB-325
MADE IN JAPAN
1-636-657-12
SSE 3
LOT NO.
S NO.
A NO.
CN5
CN11
C1
B25
A25
B1 A1
CN16
CN15
CN14
CN21
CN17
CN4
CN9
CN1
CN2
CN13
CN22
R27
R22
R21
D2
D1
PR-148
ES-2
CN3
CN7
CN8
CN10
CN6
CN19
PU1
BC
CDN

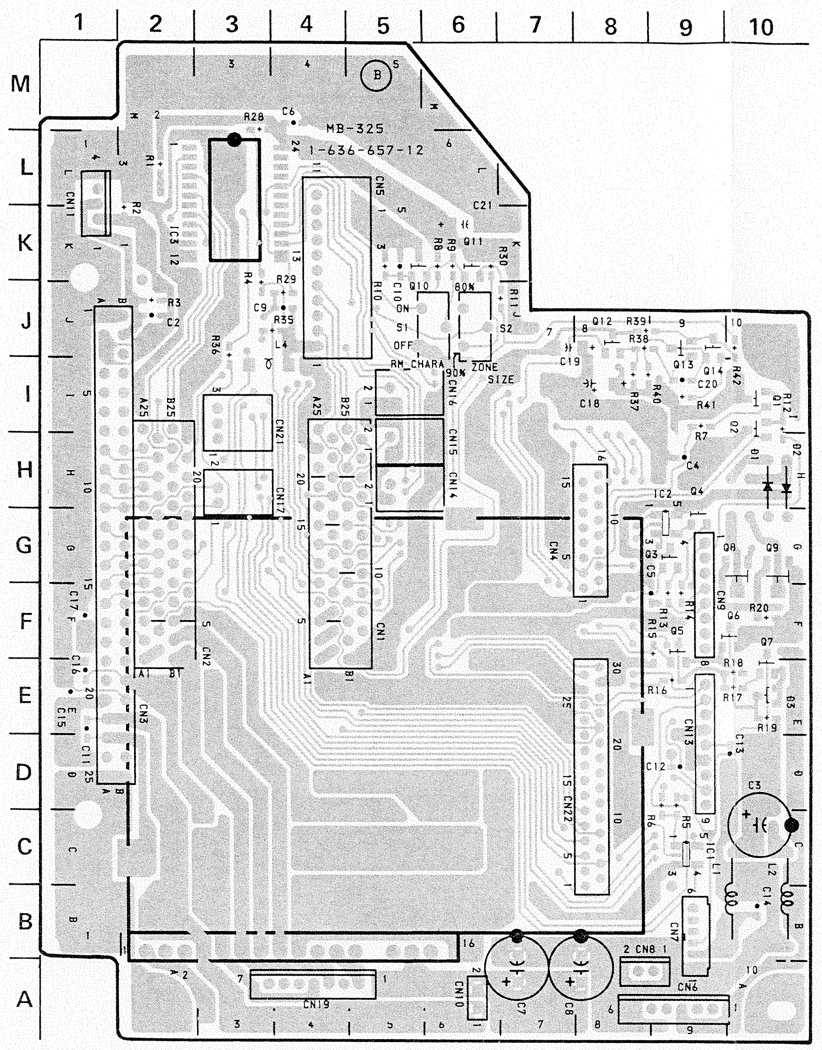
1-636-657-11, 12 COMPONENT SIDE

MB-325 BOARD

MB-325 (1-636-657-12)	
CN1	F-5
CN2	F-3
CN3	C-1
CN4	G-8
CN5	L-5
CN6	A-9
CN7	B-9
CN8	B-8
CN9	F-9
CN10	A-6
CN11	K-1
CN13	D-9
CN14	H-6
CN15	H-6
CN16	I-6
CN17	H-4
CN19	A-4
CN21	I-4
CN22	D-8
D1	H-10
D2	H-10
D3	E-10
IC1	C-9
IC2	H-9
IC3	K-2
Q1	I-10
Q2	I-10
Q3	G-9
Q4	H-9
Q5	F-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-5
Q11	K-6
Q12	J-8
Q13	I-9
Q14	I-9
S1	J-5
S2	J-7


10
9
8
7
6
5
4
3
2
1
M
L
K
J
I
H
G
F
E
D
C
B
A
A
SONY
MB-325
MADE IN JAPAN
1-636-657-12
LOT NO.
S NO.
A NO.
CN5
CN11
C1
CN16
CN15
CN14
CN21
CN17
CN4
CN9
CN1
CN2
CN3
CN13
CN22
CN7
CN8
CN6
CN10
CN19
PU1 BC BC CON
PR-14B
ES-2
D1
D2
R21
R22
R27
B25
A25
B1
A1

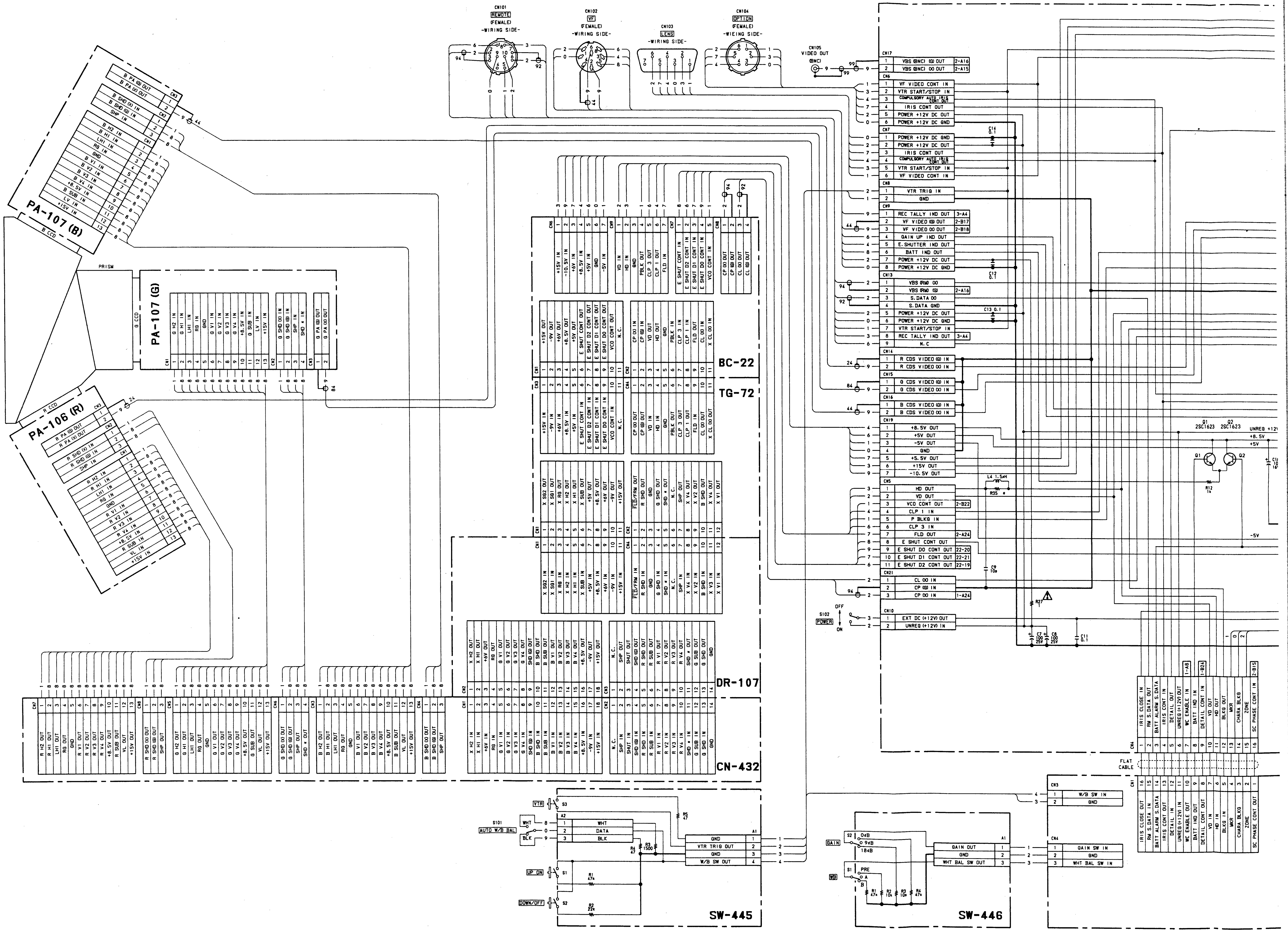
1-636-657-11, 12 COMPONENT SIDE


1
2
3
4
5
6
7
8
9
10
M
L
K
J
I
H
G
F
E
D
C
B
A
B
MB-325
1-636-657-12
CN11
IC3
R1
R2
R3
R4
R28
C6
C2
CN5
C21
Q11
R8
R9
R30
R29
R35
C9
L4
R36
R10
C10
Q10
ON
S1
OFF
RM_CHARA
S2
ZONE
SIZE
90N
80N
R11
Q12
R39
R38
C19
Q13
Q14
C20
C18
R37
R40
R41
R42
R7
Q2
Q1
D1
D2
C4
IC2
Q4
Q3
C5
Q8
Q9
R14
R13
R15
Q5
CN9
R20
Q6
Q7
R18
R16
R17
R19
D3
CN13
C13
C12
CN22
C3
R6
R5
IC1
L2
C14
L1
CN7
CN8
CN6
C7
C8
CN10
CN19
CN21
CN17
CN16
CN15
CN14
CN4
CN1
CN2
CN3
C17
C16
C15
C11

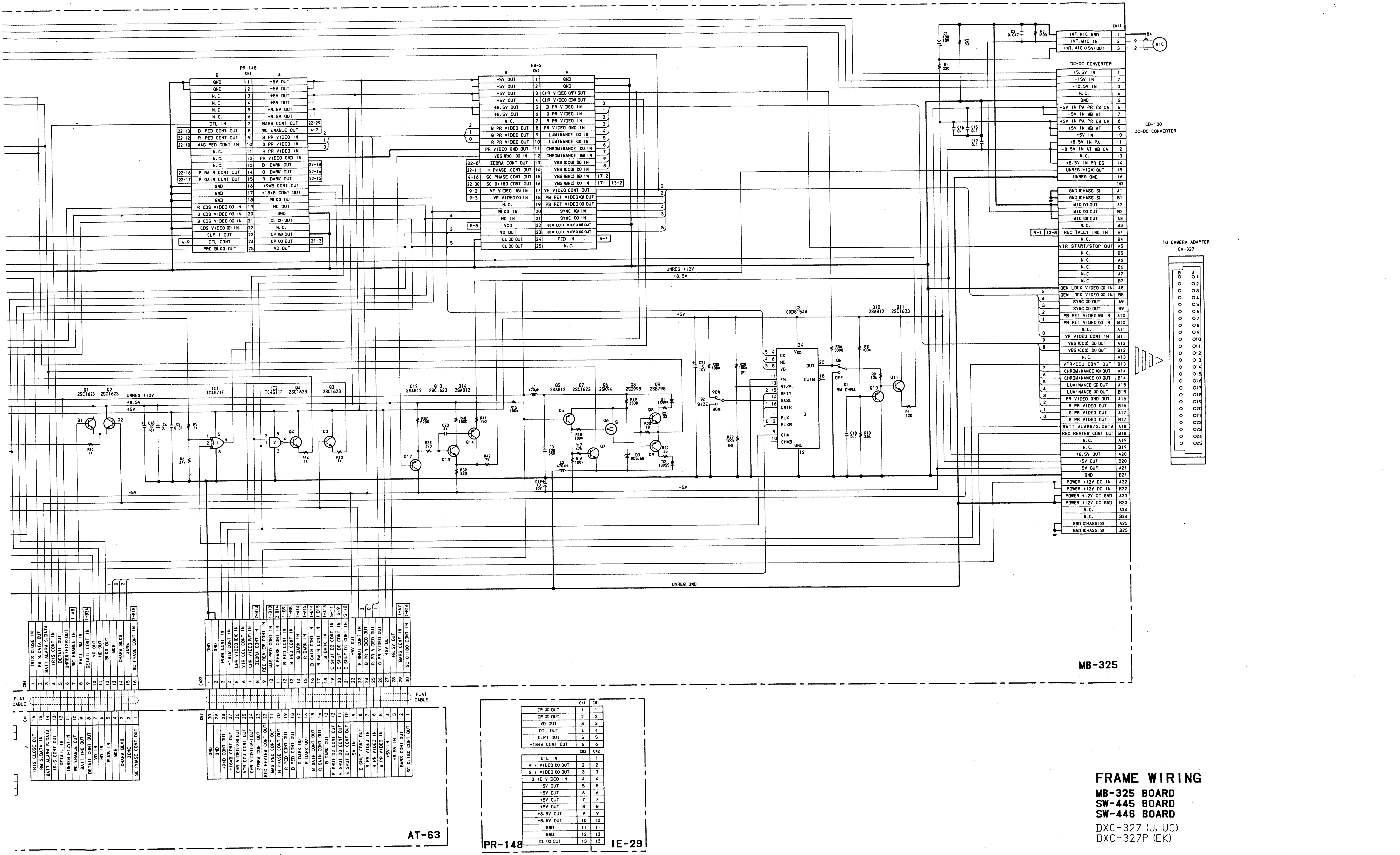
1-636-657-11, 12 SOLDERING SIDE

MB-325 (1-636-657-12)	
CN1	F-5
CN2	F-3
CN3	C-1
CN4	G-8
CN5	L-5
CN6	A-9
CN7	B-9
CN8	B-8
CN9	F-9
CN10	A-6
CN11	K-1
CN13	D-9
CN14	H-6
CN15	H-6
CN16	I-6
CN17	H-4
CN19	A-4
CN21	I-4
CN22	D-8
D1	H-10
D2	H-10
D3	E-10
IC1	C-9
IC2	H-9
IC3	K-2
Q1	I-10
Q2	I-10
Q3	G-9
Q4	H-9
Q5	F-9
Q6	F-10
Q7	F-10
Q8	G-10
Q9	G-10
Q10	J-5
Q11	K-6
Q12	J-8
Q13	I-9
Q14	I-9
S1	J-5
S2	J-7

FRAME
MB-325 BOARD
SW-445 BOARD
SW-446 BOARD


CN101 REMOTE (FEMALE) -WIRING SIDE-
CN102 VF (FEMALE) -WIRING SIDE-
CN103 LENS -WIRING SIDE-
CN104 OPTION (FEMALE) -WIEING SIDE-
CN105 VIDEO OUT (BNC)
PA-107 (B)
B CCD
PRISM
G CCD
PA-107 (G)
R CCD
PA-106 (R)
BC-22
TG-72
DR-107
CN-432
SW-445
SW-446
S101 AUTO W/B BAL
WHT
BLK
VTR
S3
UP ON
S1
DOWN/OFF
S2
GAIN
WB
PRE
S102 POWER
OFF
ON
Q1 2SC1623
Q2 2SC1623
FLAT CABLE
VBS (BNC) OUT
VF VIDEO CONT IN
VTR START/STOP IN
IRIS CONT OUT
POWER +12V DC OUT
POWER +12V DC GND
VTR TRIG IN
GND
REC TALLY IND OUT
VF VIDEO OUT
GAIN UP IND OUT
E.SHUTTER IND OUT
BATT IND OUT
S.DATA
R CDS VIDEO IN
G CDS VIDEO IN
B CDS VIDEO IN
+8.5V OUT
+5V OUT
-5V OUT
+15V OUT
-10.5V OUT
HD OUT
VD OUT
VCO CONT OUT
CLP 1 IN
P BLKG IN
CLP 3 IN
FLD OUT
E SHUT CONT OUT
CL 00 IN
CP IN
EXT DC (+12V) OUT
UNREG (+12V) IN
W/B SW IN
GAIN SW IN
WHT BAL SW IN
GAIN OUT
WHT BAL SW OUT
VTR TRIG OUT
W/B SW OUT
DATA
IRIS CLOSE IN
RM S.DATA IN
BATT ALARM S.DATA
DETAIL OUT
WC ENABLE IN
BATT IND IN
HD IN
BLKG IN
CHARA BLKG
ZONE
SC PHASE CONT IN

A | B | C | D | E | F | G


PR-148
CN1
ES-2
CN2
CN11
INT.MIC GND
INT.MIC IN
INT.MIC (+5V) OUT
MIC
DC-DC CONVERTER
CD-100
DC-DC CONVERTER
CN3
TO CAMERA ADAPTER
CA-327
UNREG +12V
+8.5V
+5V
-5V
UNREG GND
Q1 2SC1623
Q2 2SC1623
IC1 TC4S71F
IC2 TC4S11F
Q4 2SC1623
Q3 2SC1623
Q12 2SA812
Q13 2SC1623
Q14 2SA812
L1 470μH
Q5 2SA812
Q7 2SC1623
Q6 2SK94
Q8 2SD999
Q9 2SB798
L2 470μH
IC3 CXD8154M
Q10 2SA812
Q11 2SC1623
S1 RM CHRA
S2 SIZE
90%
80%
ON
OFF
CN4
CN22
CN1
CN2
FLAT CABLE
MB-325
AT-63
PR-148
IE-29

FRAME WIRING

MB-325 BOARD
SW-445 BOARD
SW-446 BOARD

DXC-327 (J, UC)
DXC-327P (EK)

SECTION D
SPARE PARTS

PARTS INFORMATION

1. **Safety Related Component Warning**

   Components indentified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."** This manual 's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer to SONY service bulletins and service manual supplements.

3. The parts marked with "S" in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

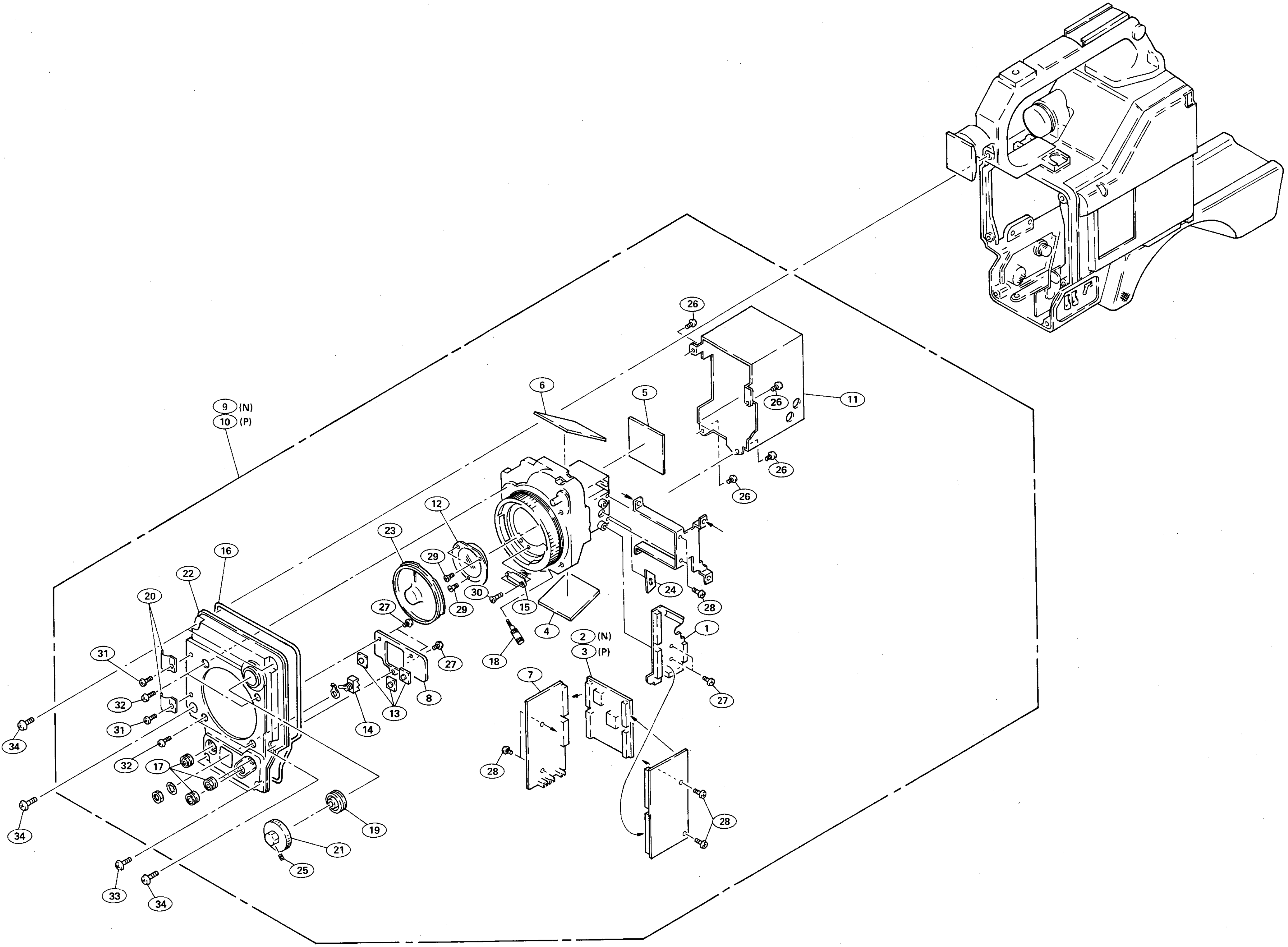
5. All capacitors are in micro farads unless otherwise specified.
   All inductors are in micro henries unless otherwise specified.
   All resistors are in ohms.

EXPLODED VIEW

CCD BLOCK

No.	Part No.	SP	Description
1	A-7515-210-A	o	MOUNTED CIRCUIT BOARD, CN-432
2	A-7515-216-A	o	MOUNTED CIRCUIT BOARD, TG-72(N) (for DXC-327)
3	A-7515-217-A	o	MOUNTED CIRCUIT BOARD, TG-72(P) (for DXC-327P)
4	A-7515-218-A	o	MOUNTED CIRCUIT BOARD, PA-106
5	A-7515-219-A	o	MOUNTED CIRCUIT BOARD, PA-107G
6	A-7515-220-A	o	MOUNTED CIRCUIT BOARD, PA-107B
7	A-7515-221-A	o	MOUNTED CIRCUIT BOARD, BC-22
8	A-7520-515-A	o	MOUNTED CIRCUIT BOARD, SW-445
9	A-7575-155-A	s	CCD UNIT (N) (for DXC-327)
10	A-7575-156-A	s	CCD UNIT (P) (for DXC-327P)
11	X-3165-232-1	o	COVER ASSY, BLOCK SHIELD
12	1-547-463-11	o	FILTER UNIT, OPTICAL
13	1-553-739-21	s	SWITCH, KEY BOARD
14	1-554-486-00	s	SWITCH, TOGGLE "AUTO W/B BAL"
15	1-942-381-12	s	HARNESS (LENS)
16	3-672-253-11	o	RUBBER, CONDUCTIVE
17	3-676-244-00	s	COVER, SWITCH
18	3-678-629-00	s	LEVER, MOUNT
19	3-678-632-00	o	PACKING, KNOB
20	3-678-684-00	o	HOLDER, CABLE
21	3-699-047-01	s	KNOB, FILTER
22	3-699-106-01	o	PANEL, FRONT
23	3-699-144-01	s	CAP, MOUNT
24	3-699-182-01	o	INSULATOR (2)
25	3-701-506-01	s	SET SCREW, DOUBLE POINT 3X4
26	7-621-770-87	s	SCREW +B 2.6X5
27	7-621-772-18	s	SCREW +B 2X4
28	7-621-773-86	s	SCREW +B 2.6X4
29	7-627-452-28	s	SCREW, PRECISION +K 2X4
30	7-627-552-48	s	SCREW, PRECISION +P 1.7X4
31	7-627-556-38	s	SCREW +P 2.6X4.0
32	7-682-547-04	s	SCREW +B 3X6
33	7-682-549-09	s	SCREW +B 3X10
34	7-682-550-09	s	SCREW +B 3X12

CCD BLOCK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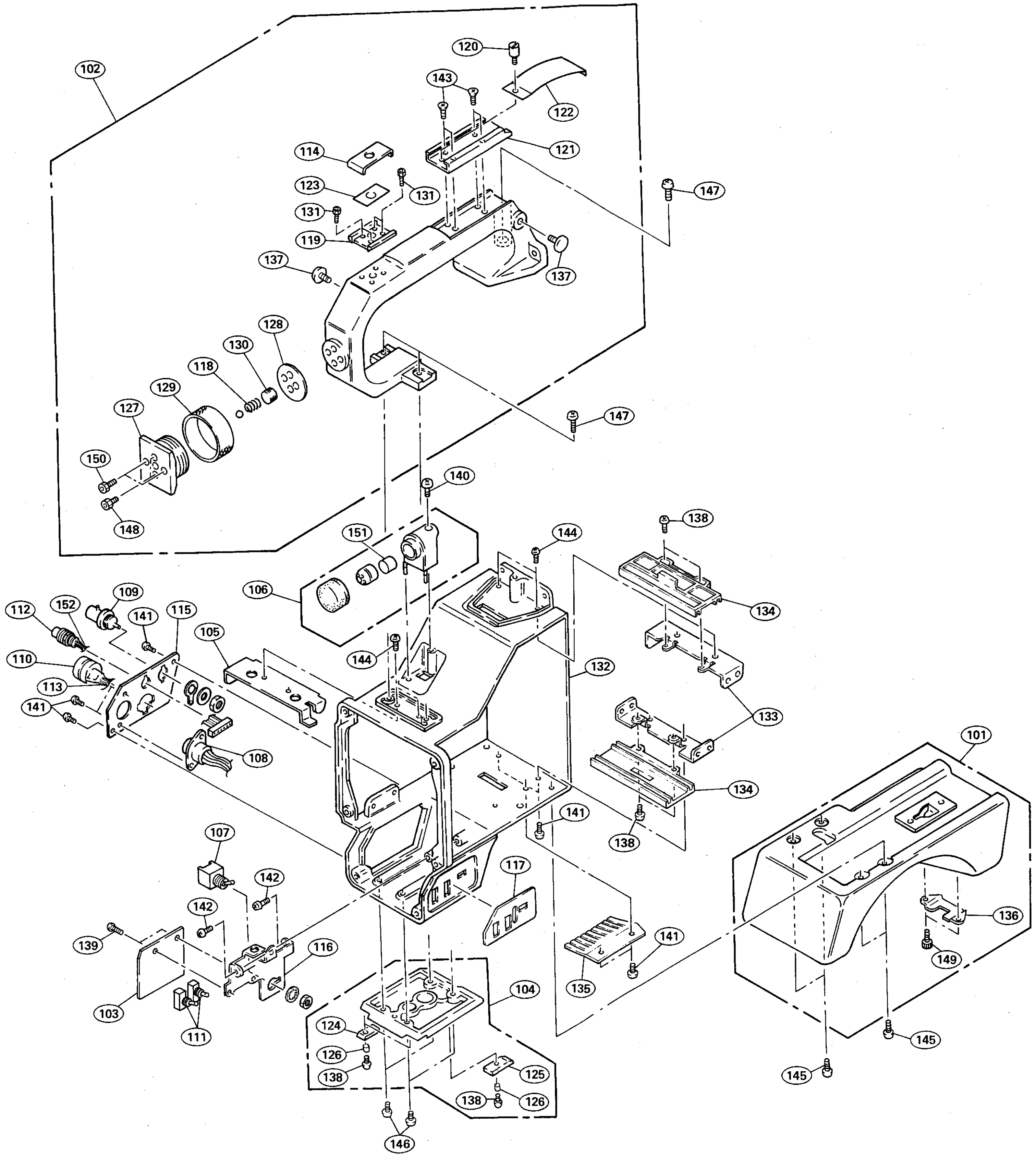
CHASSIS (1) BLOCK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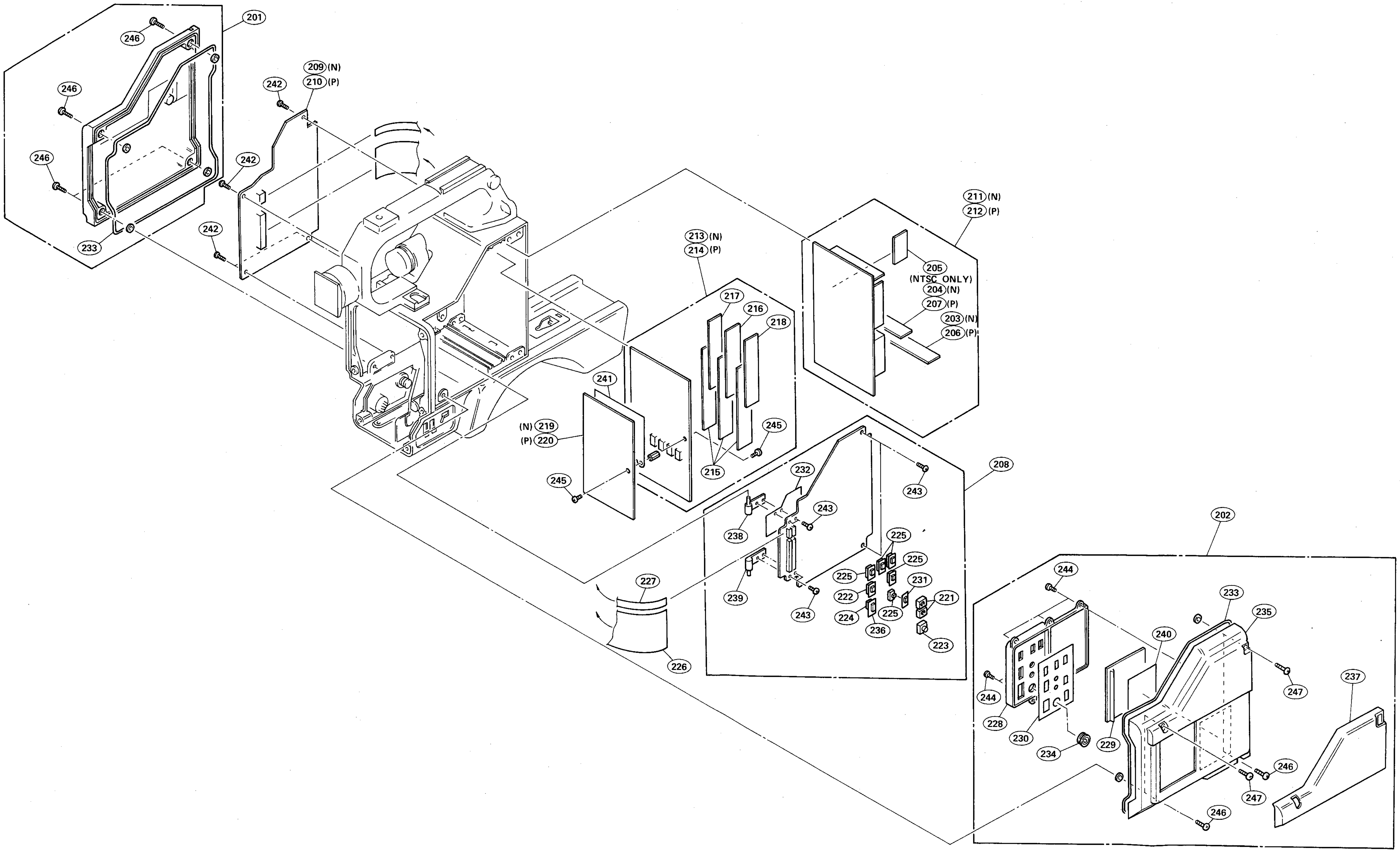
CHASSIS (1) BLOCK

No.	Part No.	SP	Description
101	A-7420-147-B	s	PAD ASSY, SHOULDER
102	A-7420-197-A	o	HANDLE ASSY
103	A-7520-516-A	o	MOUNTED CIRCUIT BOARD, SW-446
104	X-3664-212-2	s	SHOE ASSY (B), T
105	X-3699-015-1	o	BRACKET(B) ASSY
106	1-542-112-11	s	MICROPHONE (C-2025)
107	1-553-972-00	s	SWITCH, TOGGLE "POWER"
108	1-561-320-12	s	SOCKET, DIN 8P "VF"
109	1-561-781-11	s	CONNECTOR, BNC "VIDEO OUT"
110	1-562-782-21	s	CONNECTOR 10P FEMALE "REMOTE"
111	1-570-985-11	s	SWITCH, TOGGLE "GAIN" "WB"
112	1-942-381-12	s	HARNESS (LENS)
113	1-946-627-11	o	HARNESS (RM)
114	2-277-468-01	o	PLATE, ORNAMENTAL, CAMERA SHOE
115	3-166-292-01	o	PLATE, CONNECTOR
116	3-166-293-01	o	STOPPER, PC BOARD
117	3-166-298-01	o	LABEL, SW
118	3-641-622-00	s	SPRING, COMPRESSION
119	3-657-700-00	s	BRACKET, ACCESSORY
120	3-664-213-00	o	SCREW, STOPPER
121	3-664-218-00	o	SHUE
122	3-664-228-00	o	PLATE, SPRING
123	3-672-213-00	o	SHEET, ADHESIVE
124	3-675-963-02	s	FOOT, FRONT, RUBBER
125	3-675-964-01	s	FOOT, REAR, RUBBER
126	3-675-965-01	s	SPACER (2.6X2)
127	3-682-718-02	o	SHOE, VF SLIDE
128	3-682-758-01	o	SPACER
129	3-682-759-01	o	RING, LOCK
130	3-682-760-01	o	SCREW (M7-0.75), ADJUSTMENT
131	3-689-039-11	s	BOLT (M2X6), HOLE, HEXAGON
132	3-699-104-01	o	CABINET
133	3-699-110-01	o	BRACKET (A)
134	3-699-131-01	o	GUIDE, PC BOARD
135	3-699-145-01	o	PLATE, GROUND
136	3-699-176-01	o	STOPPER (2)
137	3-725-907-01	s	BUSHING, BLIND
138	7-621-770-87	s	SCREW +B 2.6X5
139	7-621-772-18	s	SCREW +B 2X4
140	7-621-772-30	s	SCREW +B 2X6
141	7-621-773-86	s	SCREW +B 2.6X4
142	7-621-775-20	s	SCREW +B 2.6X5
143	7-682-247-04	s	SCREW +K 3X6
144	7-682-546-09	s	SCREW +B 3X5
145	7-682-547-09	s	SCREW +B 3X6
146	7-682-561-09	s	SCREW +B 4X8
147	7-682-562-09	s	SCREW +B 4X10
148	7-683-410-04	s	BOLT,HEXAGON SOCKET 3X20
149	7-683-412-05	s	BOLT,HEXAGON SOCKET 2.6X6
150	7-683-425-04	s	BOLT,HEXAGON SOCKET 4X20
151	8-814-189-31	s	MICROPHONE, BUILT-IN (C-1007A)
152	1-562-222-41	o	CONNECTOR, 6P FEMALE "LENS"

CHASSIS (2) BLOCK

No.	Part No.	SP	Description
201	A-7420-143-A	o	PLATE (LEFT) ASSY, SIDE
202	A-7420-188-A	o	PLATE (RIGHT) ASSY, SIDE
203	A-7513-840-A	o	MOUNTED CIRCUIT BOARD, MX-18A(N) (for DXC-327)
204	A-7513-841-A	o	MOUNTED CIRCUIT BOARD, CM-22(N) (for DXC-327)
205	A-7513-842-A	o	MOUNTED CIRCUIT BOARD, BKG-4 (for DXC-327)
206	A-7513-844-A	o	MOUNTED CIRCUIT BOARD, MX-18A(P) (for DXC-327P)
207	A-7513-845-A	o	MOUNTED CIRCUIT BOARD, CM-22(P) (for DXC-327P)
208	A-7515-211-A	o	MOUNTED CIRCUIT BOARD, AT-63
209	A-7515-212-A	o	MOUNTED CIRCUIT BOARD, MB-325(N) (for DXC-327)
210	A-7515-213-A	o	MOUNTED CIRCUIT BOARD, MB-325(P) (for DXC-327P)
211	A-7515-214-A	o	MOUNTED CIRCUIT BOARD, ES-2(N) (for DXC-327)
212	A-7515-215-A	o	MOUNTED CIRCUIT BOARD, ES-2(P) (for DXC-327P)
213	A-7515-223-A	o	MOUNTED CIRCUIT BOARD, PR-148(N) (for DXC-327)
214	A-7515-224-A	o	MOUNTED CIRCUIT BOARD, PR-148(P) (for DXC-327P)
215	A-7515-225-A	o	MOUNTED CIRCUIT BOARD, PR-147
216	A-7515-226-A	o	MOUNTED CIRCUIT BOARD, VA-105R
217	A-7515-227-A	o	MOUNTED CIRCUIT BOARD, VA-105G
218	A-7515-228-A	o	MOUNTED CIRCUIT BOARD, VA-105B
219	A-7515-229-A	o	MOUNTED CIRCUIT BOARD, IE-29(N) (for DXC-327)
220	A-7515-230-A	o	MOUNTED CIRCUIT BOARD, IE-29(P) (for DXC-327P)
221	1-237-518-21	s	RES, ADJ, METAL 10K "PHASE SC/H"
222	1-553-977-00	s	SWITCH, SLIDE "MARKER"
223	1-554-303-21	s	SWITCH, KEY BOARD "REC REVIEW"
224	1-554-364-00	s	SWITCH, SLIDE "DISP CHG"
225	1-570-865-11	s	SWITCH, SLIDE "SHUTTER" "ZEBRA" "PHASE" "BARS"
226	1-574-145-11	s	WIRE, FLAT TYPE (30 CORE)
227	1-590-168-11	s	WIRE, FLAT TYPE (16 CORE)
228	3-166-294-01	o	FRAME, SLIDE DOOR
229	3-166-295-01	o	DOOR, SLIDE
230	3-166-296-01	o	PLATE, SWITCH
231	3-167-445-01	s	KNOB, SWITCH
232	3-168-689-01	o	PLATE (2) SHIELD AT
233	3-672-253-11	o	RUBBER, CONDUCTIVE
234	3-676-244-00	s	COVER, SWITCH
235	3-699-107-01	o	PLATE (RIGHT), SIDE
236	3-699-125-01	s	KNOB, DISPCHG
237	3-699-137-01	s	PAD (C), SIDE
238	3-699-170-01	o	BRACKET (UPPER), AT
239	3-699-171-01	o	BRACKET (LOWER), AT
240	3-699-172-01	o	SHEET, STOPPER
241	3-699-179-01	o	PLATE, SHIELD, IE
242	7-621-770-87	s	SCREW +B 2.6X5
243	7-621-772-18	s	SCREW +B 2X4
244	7-621-772-20	s	SCREW +B 2X5
245	7-621-775-08	s	SCREW +B 2.6X3
246	7-682-548-09	s	SCREW +B 3X8
247	7-682-553-09	s	SCREW +B 3X20

CHASSIS (2) BLOCK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PACKING MATERIAL AND ACCESSORIES

DXC-327H/327PH

Part. No.	SP	Description
3-166-614-01	o	CARTON, INDIVIDUAL DXC-327H(UC)
3-166-615-01	o	CARTON, INDIVIDUAL DXC-327PH(EK)
3-699-154-01	o	CUSHION(LOWER)
3-699-157-01	o	CUSHION(UPPER)
3-752-391-11	s	MANUAL, INSTRUCTION(UC, EK)
3-759-391-31	s	MANUAL, INSTRUCTION(UC, EK)
3-759-391-41	s	MANUAL, INSTRUCTION(EK)
3-759-391-51	s	MANUAL, INSTRUCTION(EK)
3-752-391-61	s	MANUAL, INSTRUCTION(EK)
3-764-889-01	o	CHART, ADJUSTMENT

DXC-327L/327PL

Part. No.	SP	Description
3-166-618-01	o	CARTON, INDIVIDUAL DXC-327L(UC)
3-166-619-01	o	CARTON, INDIVIDUAL DXC-327PL(EK)
3-701-630-01	o	BAG, POLY
3-752-391-11	s	MANUAL, INSTRUCTION DXC-327L(UC)
3-752-391-31	s	MANUAL, INSTRUCTION DXC-327L(UC)
3-752-391-41	s	MANUAL, INSTRUCTION DXC-327PL(EK)
3-752-391-51	s	MANUAL, INSTRUCTION DXC-327PL(EK)
3-752-391-61	s	MANUAL, INSTRUCTION DXC-327PL(EK)
3-764-889-01	o	CHART, ADJUSTMENT

DXC-327K/327PK

Part. No.	SP	Description
3-166-616-01	o	CARTON, INDIVIDUAL DXC-327K(UC)
3-166-617-01	o	CARTON, INDIVIDUAL DXC-327PK(EK)
3-701-630-01	o	BAG, POLY
3-752-391-11	s	MANUAL, INSTRUCTION DXC-327K(UC)/DXC-327PK(EK)
3-752-391-31	s	MANUAL, INSTRUCTION DXC-327K(UC)/DXC-327PK(EK)
3-752-391-41	s	MANUAL, INSTRUCTION DXC-327PK(EK)
3-752-391-51	s	MANUAL, INSTRUCTION DXC-327PK(EK)
3-752-391-61	s	MANUAL, INSTRUCTION DXC-327PK(EK)
3-764-889-01	o	CHART, ADJUSTMENT
7-682-560-09	s	SCREW +B4x6
7-682-563-09	s	SCREW +B4x12

ELECTRICAL PARTS

RESISTOR, CHIP

Part No.	SP	Description
1-216-295-00	s	CHIP 0 5% 1/10W
1-216-298-00	s	CHIP 2.2 5% 1/10W
1-216-302-00	s	CHIP 2.7 5% 1/10W
1-216-304-00	s	CHIP 3.3 5% 1/10W
1-216-306-00	s	CHIP 3.9 5% 1/10W
1-216-308-00	s	CHIP 4.7 5% 1/10W
1-216-309-00	s	CHIP 5.6 5% 1/10W
1-216-311-00	s	CHIP 6.8 5% 1/10W
1-216-313-00	s	CHIP 8.2 5% 1/10W
1-216-001-00	s	CHIP 10 5% 1/10W
1-216-003-00	s	CHIP 12 5% 1/10W
1-216-005-00	s	CHIP 15 5% 1/10W
1-216-007-00	s	CHIP 18 5% 1/10W
1-216-009-00	s	CHIP 22 5% 1/10W
1-216-011-00	s	CHIP 27 5% 1/10W
1-216-013-00	s	CHIP 33 5% 1/10W
1-216-015-00	s	CHIP 39 5% 1/10W
1-216-017-00	s	CHIP 47 5% 1/10W
1-216-019-00	s	CHIP 56 5% 1/10W
1-216-021-00	s	CHIP 68 5% 1/10W
1-216-023-00	s	CHIP 82 5% 1/10W
1-216-025-00	s	CHIP 100 5% 1/10W
1-216-027-00	s	CHIP 120 5% 1/10W
1-216-029-00	s	CHIP 150 5% 1/10W
1-216-031-00	s	CHIP 180 5% 1/10W
1-216-033-00	s	CHIP 220 5% 1/10W
1-216-035-00	s	CHIP 270 5% 1/10W
1-216-037-00	s	CHIP 330 5% 1/10W
1-216-039-00	s	CHIP 390 5% 1/10W
1-216-041-00	s	CHIP 470 5% 1/10W
1-216-043-00	s	CHIP 560 5% 1/10W
1-216-045-00	s	CHIP 680 5% 1/10W
1-216-047-00	s	CHIP 820 5% 1/10W
1-216-049-00	s	CHIP 1k 5% 1/10W
1-216-051-00	s	CHIP 1.2k 5% 1/10W
1-216-053-00	s	CHIP 1.5k 5% 1/10W
1-216-055-00	s	CHIP 1.8k 5% 1/10W
1-216-057-00	s	CHIP 2.2k 5% 1/10W
1-216-059-00	s	CHIP 2.7k 5% 1/10W
1-216-061-00	s	CHIP 3.3k 5% 1/10W
1-216-063-00	s	CHIP 3.9k 5% 1/10W
1-216-065-00	s	CHIP 4.7k 5% 1/10W
1-216-067-00	s	CHIP 5.6k 5% 1/10W
1-216-069-00	s	CHIP 6.8k 5% 1/10W
1-216-071-00	s	CHIP 8.2k 5% 1/10W
1-216-073-00	s	CHIP 10k 5% 1/10W
1-216-075-00	s	CHIP 12k 5% 1/10W
1-216-077-00	s	CHIP 15k 5% 1/10W
1-216-079-00	s	CHIP 18k 5% 1/10W
1-216-081-00	s	CHIP 22k 5% 1/10W
1-216-083-00	s	CHIP 27k 5% 1/10W
1-216-085-00	s	CHIP 33k 5% 1/10W
1-216-087-00	s	CHIP 39k 5% 1/10W
1-216-089-00	s	CHIP 47k 5% 1/10W
1-216-091-00	s	CHIP 56k 5% 1/10W
1-216-093-00	s	CHIP 68k 5% 1/10W
1-216-095-00	s	CHIP 82k 5% 1/10W
1-216-097-00	s	CHIP 100k 5% 1/10W
1-216-099-00	s	CHIP 120k 5% 1/10W
1-216-101-00	s	CHIP 150k 5% 1/10W

(RESISTOR, CHIP)

Part No.	SP	Description
1-216-103-00	s	CHIP 180k 5% 1/10W
1-216-105-00	s	CHIP 220k 5% 1/10W
1-216-107-00	s	CHIP 270k 5% 1/10W
1-216-109-00	s	CHIP 330k 5% 1/10W
1-216-111-00	s	CHIP 390k 5% 1/10W
1-216-113-00	s	CHIP 470k 5% 1/10W
1-216-115-00	s	CHIP 560k 5% 1/10W
1-216-117-00	s	CHIP 680k 5% 1/10W
1-216-119-00	s	CHIP 820k 5% 1/10W
1-216-121-00	s	CHIP 1.0M 5% 1/10W
1-216-123-00	s	CHIP 1.2M 5% 1/10W
1-216-125-00	s	CHIP 1.5M 5% 1/10W
1-216-127-00	s	CHIP 1.8M 5% 1/10W
1-216-129-00	s	CHIP 2.2M 5% 1/10W
1-216-131-00	s	CHIP 2.7M 5% 1/10W
1-216-133-00	s	CHIP 3.3M 5% 1/10W

CAPACITOR, CHIP CERAMIC

Part No.	SP	Description
1-163-083-00	s	CHIP CERAMIC 1pF +-0.25pF 50V
1-163-085-00	s	CHIP CERAMIC 2pF +-0.25pF 50V
1-163-087-00	s	CHIP CERAMIC 4pF +-0.25pF 50V
1-163-089-00	s	CHIP CERAMIC 6pF +-0.5pF 50V
1-163-091-00	s	CHIP CERAMIC 8pF +-0.5pF 50V
1-163-093-00	s	CHIP CERAMIC 10pF 5% 50V
1-163-097-00	s	CHIP CERAMIC 15pF 5% 50V
1-163-101-00	s	CHIP CERAMIC 22pF 5% 50V
1-163-105-00	s	CHIP CERAMIC 33pF 5% 50V
1-163-109-00	s	CHIP CERAMIC 47pF 5% 50V
1-163-113-00	s	CHIP CERAMIC 68pF 5% 50V
1-163-117-00	s	CHIP CERAMIC 100pF 5% 50V
1-163-121-00	s	CHIP CERAMIC 150pF 5% 50V
1-163-125-00	s	CHIP CERAMIC 220pF 5% 50V
1-163-129-00	s	CHIP CERAMIC 330pF 5% 50V
1-163-133-00	s	CHIP CERAMIC 470pF 5% 50V
1-163-137-00	s	CHIP CERAMIC 680pF 5% 50V
1-163-141-00	s	CHIP CERAMIC 1000pF 5% 50V
1-163-145-00	s	CHIP CERAMIC 1500pF 10% 50V
1-163-013-00	s	CHIP CERAMIC 2200pF 10% 50V
1-163-015-00	s	CHIP CERAMIC 3300pF 10% 50V
1-163-017-00	s	CHIP CERAMIC 4700pF 10% 50V
1-163-019-00	s	CHIP CERAMIC 6800pF 10% 50V
1-163-021-00	s	CHIP CERAMIC 0.01 10% 50V
1-163-023-00	s	CHIP CERAMIC 0.015 10% 50V
1-163-034-00	s	CHIP CERAMIC 0.033 50V
1-163-035-00	s	CHIP CERAMIC 0.047 50V
1-163-036-00	s	CHIP CERAMIC 0.068 50V
1-163-038-00	s	CHIP CERAMIC 0.1 50V

RESISTOR, CHIP METAL

Part No.	SP	Description
1-216-603-11	s	CHIP METAL 10 1% 1/10W
1-216-605-11	s	CHIP METAL 12 1% 1/10W
1-216-609-11	s	CHIP METAL 18 1% 1/10W
1-216-611-11	s	CHIP METAL 22 1% 1/10W
1-216-614-11	s	CHIP METAL 30 1% 1/10W
1-216-617-11	s	CHIP METAL 39 1% 1/10W
1-216-619-11	s	CHIP METAL 47 1% 1/10W
1-216-620-11	s	CHIP METAL 51 1% 1/10W
1-216-623-11	s	CHIP METAL 68 1% 1/10W
1-216-624-11	s	CHIP METAL 75 1% 1/10W
1-216-625-11	s	CHIP METAL 82 1% 1/10W
1-216-626-11	s	CHIP METAL 91 1% 1/10W
1-216-627-11	s	CHIP METAL 100 1% 1/10W
1-216-629-11	s	CHIP METAL 120 1% 1/10W
1-216-631-11	s	CHIP METAL 150 1% 1/10W
1-216-633-11	s	CHIP METAL 180 1% 1/10W
1-216-634-11	s	CHIP METAL 200 1% 1/10W
1-216-635-11	s	CHIP METAL 220 1% 1/10W
1-216-636-11	s	CHIP METAL 240 1% 1/10W
1-216-637-11	s	CHIP METAL 270 1% 1/10W
1-216-638-11	s	CHIP METAL 300 1% 1/10W
1-216-639-11	s	CHIP METAL 330 1% 1/10W
1-216-640-11	s	CHIP METAL 360 1% 1/10W
1-216-641-11	s	CHIP METAL 390 1% 1/10W
1-216-642-11	s	CHIP METAL 430 1% 1/10W
1-216-643-11	s	CHIP METAL 470 1% 1/10W
1-216-644-11	s	CHIP METAL 510 1% 1/10W
1-216-645-11	s	CHIP METAL 560 1% 1/10W
1-216-647-11	s	CHIP METAL 680 1% 1/10W
1-216-648-11	s	CHIP METAL 750 1% 1/10W
1-216-649-11	s	CHIP METAL 820 1% 1/10W
1-216-650-11	s	CHIP METAL 910 1% 1/10W
1-216-651-11	s	CHIP METAL 1.0k 1% 1/10W
1-216-652-11	s	CHIP METAL 1.1k 1% 1/10W
1-216-653-11	s	CHIP METAL 1.2k 1% 1/10W
1-216-655-11	s	CHIP METAL 1.5k 1% 1/10W
1-216-656-11	s	CHIP METAL 1.6k 1% 1/10W
1-216-657-11	s	CHIP METAL 1.8k 1% 1/10W
1-216-658-11	s	CHIP METAL 2k 1% 1/10W
1-216-659-11	s	CHIP METAL 2.2k 1% 1/10W
1-216-660-11	s	CHIP METAL 2.4k 1% 1/10W
1-216-661-11	s	CHIP METAL 2.7k 1% 1/10W
1-216-662-11	s	CHIP METAL 3k 1% 1/10W
1-216-663-11	s	CHIP METAL 3.3k 1% 1/10W
1-216-664-11	s	CHIP METAL 3.5k 1% 1/10W
1-216-665-11	s	CHIP METAL 3.9k 1% 1/10W
1-216-666-11	s	CHIP METAL 4.3k 1% 1/10W
1-216-667-11	s	CHIP METAL 4.7k 1% 1/10W
1-216-668-11	s	CHIP METAL 5.1k 1% 1/10W
1-216-669-11	s	CHIP METAL 5.6k 1% 1/10W
1-216-670-11	s	CHIP METAL 6.2k 1% 1/10W
1-216-671-11	s	CHIP METAL 6.8k 1% 1/10W
1-216-672-11	s	CHIP METAL 7.5k 1% 1/10W
1-216-673-11	s	CHIP METAL 8.2k 1% 1/10W
1-216-674-11	s	CHIP METAL 9.1k 1% 1/10W
1-216-675-11	s	CHIP METAL 10k 1% 1/10W
1-216-676-11	s	CHIP METAL 11k 1% 1/10W
1-216-677-11	s	CHIP METAL 12k 1% 1/10W
1-216-678-11	s	CHIP METAL 13k 1% 1/10W
1-216-679-11	s	CHIP METAL 15k 1% 1/10W

(RESISTOR, CHIP METAL)

Part No.	SP	Description
1-216-680-11	s	CHIP METAL 16k 1% 1/10W
1-216-681-11	s	CHIP METAL 18k 1% 1/10W
1-216-682-11	s	CHIP METAL 20k 1% 1/10W
1-216-683-11	s	CHIP METAL 22k 1% 1/10W
1-216-684-11	s	CHIP METAL 24k 1% 1/10W
1-216-685-11	s	CHIP METAL 27k 1% 1/10W
1-216-686-11	s	CHIP METAL 30k 1% 1/10W
1-216-687-11	s	CHIP METAL 33k 1% 1/10W
1-216-688-11	s	CHIP METAL 36k 1% 1/10W
1-216-689-11	s	CHIP METAL 39k 1% 1/10W
1-216-690-11	s	CHIP METAL 43k 1% 1/10W
1-216-691-11	s	CHIP METAL 49k 1% 1/10W
1-216-692-11	s	CHIP METAL 51k 1% 1/10W
1-216-693-11	s	CHIP METAL 56k 1% 1/10W
1-216-694-11	s	CHIP METAL 62k 1% 1/10W
1-216-695-11	s	CHIP METAL 68k 1% 1/10W
1-216-696-11	s	CHIP METAL 75k 1% 1/10W
1-216-697-11	s	CHIP METAL 82k 1% 1/10W
1-216-698-11	s	CHIP METAL 91k 1% 1/10W
1-216-699-11	s	CHIP METAL 100k 1% 1/10W

AT-63 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-211-A	o	MOUNTED CIRCUIT BOARD "AT-63"
1pc	7-621-772-18	s	SCREW +B 2X4
C1	1-124-234-00	s	ELECT 22uF 20% 16V
C2	1-126-154-11	s	ELECT 47uF 20% 6.3V
C3	1-126-154-11	s	ELECT 47uF 20% 6.3V
C4	1-124-229-00	s	ELECT 33uF 20% 10V
C5	1-124-229-00	s	ELECT 33uF 20% 10V
C6	1-124-229-00	s	ELECT 33uF 20% 10V
C8	1-126-157-11	s	ELECT 10uF 20% 16V
C9	1-163-251-11	s	CERAMIC 100PF 5% 50V
C10	1-131-347-00	s	TANTALUM 1uF 10% 35V
C11	1-131-347-00	s	TANTALUM 1uF 10% 35V
C13	1-124-234-00	s	ELECT 22uF 20% 16V
C14	1-126-153-11	s	ELECT 22uF 20% 6.3V
C16	1-124-589-11	s	ELECT 47uF 20% 10V
C18	1-124-584-00	s	ELECT 100uF 20% 10V
C20	1-124-234-00	s	ELECT 22uF 20% 16V
C21	1-126-153-11	s	ELECT 22uF 20% 6.3V
C22	1-126-153-11	s	ELECT 22uF 20% 6.3V
C23	1-126-153-11	s	ELECT 22uF 20% 6.3V
C24	1-124-234-00	s	ELECT 22uF 20% 16V
C25	1-126-153-11	s	ELECT 22uF 20% 6.3V
C26	1-126-163-11	s	ELECT 4.7uF 20% 50V
C27	1-126-163-11	s	ELECT 4.7uF 20% 50V
C28	1-126-163-11	s	ELECT 4.7uF 20% 50V
C29	1-126-163-11	s	ELECT 4.7uF 20% 50V
C34	1-124-234-00	s	ELECT 22uF 20% 16V
C35	1-126-160-11	s	ELECT 1uF 20% 50V
C36	1-126-160-11	s	ELECT 1uF 20% 50V
C37	1-130-489-00	s	MYLAR 0.033uF 5% 50V
C38	1-164-161-11	s	CERAMIC CHIP 0.0022uF 10% 50V
C39	1-126-160-11	s	ELECT 1uF 20% 50V
C41	1-126-153-11	s	ELECT 22uF 20% 6.3V
C43	1-126-153-11	s	ELECT 22uF 20% 6.3V
C45	1-163-245-11	s	CERAMIC 56PF 5% 50V
C46	1-131-379-00	s	TANTALUM 22uF 10% 10V
C47	1-131-379-00	s	TANTALUM 22uF 10% 10V
C50	1-126-157-11	s	ELECT 10uF 20% 16V
C53	1-126-157-11	s	ELECT 10uF 20% 16V
C62	1-124-234-00	s	ELECT 22uF 20% 16V
C63	1-126-153-11	s	ELECT 22uF 20% 6.3V
C67	1-126-157-11	s	ELECT 10uF 20% 16V
C68	1-126-157-11	s	ELECT 10uF 20% 16V
C69	1-126-157-11	s	ELECT 10uF 20% 16V
C70	1-126-153-11	s	ELECT 22uF 20% 6.3V
C79	1-131-365-00	s	TANTALUM 10uF 10% 16V
C80	1-126-160-11	s	ELECT 1uF 20% 50V
C81	1-126-157-11	s	ELECT 10uF 20% 16V
C82	1-124-589-11	s	ELECT 47uF 20% 10V
CN1	1-566-516-11	s	RECEPTACLE, FPC (ZIF) 16P
CN2	1-565-210-11	s	RECEPTACLE, FPC (ZIF) 30P
CN3	1-506-467-11	o	CONNECTOR, 2P, MALE
CN4	1-506-468-11	o	CONNECTOR, 3P, MALE
CV1	1-141-245-00	s	TRIMMER 30PF
D2	8-719-800-76	s	DIODE 1SS226
D3	8-719-104-31	s	DIODE 1S2838
D5	8-719-104-31	s	DIODE 1S2838

(AT-63 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D9	8-719-104-31	s	DIODE 1S2838
D10	8-719-104-31	s	DIODE 1S2838
D11	8-719-104-31	s	DIODE 1S2838
D12	8-719-104-31	s	DIODE 1S2838
D13	8-719-105-90	s	DIODE RD5.6M-B1
D14	8-719-104-31	s	DIODE 1S2838
D21	8-719-800-76	s	DIODE 1SS226
D23	8-719-104-31	s	DIODE 1S2838
D24	8-719-800-76	s	DIODE 1SS226
D25	8-719-104-34	s	DIODE 1S2836
D26	8-719-104-34	s	DIODE 1S2836
D27	8-719-104-34	s	DIODE 1S2836
D28	8-719-104-34	s	DIODE 1S2836
IC1	8-759-300-71	s	IC MC14053BF
IC2	8-759-101-12	s	IC UPC311G2
IC3	8-759-981-65	s	IC LM2903M
IC4	8-759-906-54	s	IC TL064CNS
IC5	8-759-300-71	s	IC MC14053BF
IC7	8-759-906-54	s	IC TL064CNS
IC8	8-759-009-10	s	IC MC14069UBF
IC9	8-759-323-26	s	IC HD6305Y0E17F
IC10	8-759-977-80	s	IC MB88342PF
IC11	8-759-977-80	s	IC MB88342PF
IC12	8-759-009-05	s	IC MC14051BF
IC13	8-759-008-74	s	IC MC14001BF
IC14	8-759-906-54	s	IC TL064CNS
IC15	8-759-906-54	s	IC TL064CNS
IC16	8-759-112-72	s	IC UPD6142G-101
IC17	8-759-906-54	s	IC TL064CNS
IC18	8-759-300-71	s	IC MC14053BF
IC19	8-759-633-29	s	IC M6M80011L
IC20	8-759-009-10	s	IC MC14069UBF
IC21	8-759-908-17	s	IC TL082CPS
L4	1-408-783-00	s	CHIP 33uH
L5	1-408-786-21	s	CHIP 56uH
L6	1-408-783-00	s	CHIP 33uH
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q3	8-729-216-22	s	TRANSISTOR 2SA1162
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-402-19	s	TRANSISTOR XN6501
Q6	8-729-402-19	s	TRANSISTOR XN6501
Q7	8-729-100-66	s	TRANSISTOR 2SC1623
Q8	8-729-402-84	s	TRANSISTOR XN4601
Q9	8-729-402-84	s	TRANSISTOR XN4601
Q10	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q11	8-729-100-66	s	TRANSISTOR 2SC1623
Q12	8-729-402-19	s	TRANSISTOR XN6501
Q13	8-729-403-32	s	TRANSISTOR XN6534
Q14	8-729-402-84	s	TRANSISTOR XN4601
Q20	8-729-402-19	s	TRANSISTOR XN6501
Q21	8-729-402-19	s	TRANSISTOR XN6501
Q23	8-729-100-66	s	TRANSISTOR 2SC1623
R146	1-216-748-11	s	METAL CHIP 39K 5% 1/10W
RB1	1-231-387-00	s	NETTY, RES
RV1	1-237-603-11	s	RES, ADJ, METAL 2.2K

(AT-63 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV2	1-237-606-11	s	RES, ADJ, METAL 22K
RV3	1-237-603-11	s	RES, ADJ, METAL 2.2K
RV4	1-237-518-21	s	RES, ADJ, METAL 10K
RV5	1-237-518-21	s	RES, ADJ, METAL 10K
RV6	1-230-528-11	s	METAL 220K
S1	1-570-865-11	s	SWITCH, SLIDE
S2	1-553-977-00	s	SWITCH, SLIDE
S3	1-554-303-21	s	KEY BOARD "REC REVIEW"
S4	1-570-865-11	s	SWITCH, SLIDE
S5	1-570-865-11	s	SWITCH, SLIDE
S7	1-570-854-11	s	SWITCH, SLIDE
S8	1-570-865-11	s	SWITCH, SLIDE
S9	1-554-364-00	s	SLIDE "DISP CHG"
S10	1-570-865-11	s	SWITCH, SLIDE
X1	1-567-192-11	s	CERAMIC 4.00MHz

BC-22 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-221-A	o	MOUNTED CIRCUIT BOARD "BC-22"
3pcs	1-569-193-11	o	CONTACT
C1	1-124-120-11	s	ELECT 220uF 20% 25V
C2	1-126-176-11	s	ELECT 220uF 20% 10V
C3	1-124-120-11	s	ELECT 220uF 20% 25V
C4	1-131-379-00	s	TANTALUM 22uF 10% 10V
CN1	1-566-257-31	o	RECEPTACLE, BOARD TO BOARD 11P
CN2	1-566-257-31	o	RECEPTACLE, BOARD TO BOARD 11P
CN5	1-562-156-11	o	HOUSING, 11P
CN6	1-562-152-11	o	HOUSING, 7P
CN21	1-569-196-11	o	HOUSING, 3P
IC1	8-759-233-18	s	IC TC74HC374AF
L1	1-408-413-00	s	MICRO 22uH

BKG-4 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
CN1	1-565-242-11	o	HEADDER, PIN 9P
D1	8-719-104-34	s	DIODE 1S2836
D2	8-719-104-34	s	DIODE 1S2836
DL1	1-415-370-11	s	340nS
IC1	8-759-907-81	s	IC SN74LS221NS
IC2	8-759-012-84	s	IC MC14557BF
IC3	8-759-201-53	s	IC TC40H000F

CM-22 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-163-251-11	s	CERAMIC 100PF 5% 50V
C2	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C4	1-163-251-11	s	CERAMIC 100PF 5% 50V
C5	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C6	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C7	1-163-251-11	s	CERAMIC 100PF 5% 50V
C8	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C9	1-163-251-11	s	CERAMIC 100PF 5% 50V
C11	1-163-251-11	s	CERAMIC 100PF 5% 50V
CN1	1-566-095-11	s	PIN, BOARD TO BOARD 10P
IC1	8-759-906-59	s	IC CX22017
Q1	8-729-100-66	s	TRANSISTOR 2SC1623
Q2	8-729-100-66	s	TRANSISTOR 2SC1623
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
RV1	1-228-394-00	s	RES, ADJ, METAL 4.7K
RV2	1-228-394-00	s	RES, ADJ, METAL 4.7K

CN-432 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-210-A	o	MOUNTED CIRCUIT BOARD "CN-432"
C4	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C5	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C6	1-135-125-21	s	TANTALUM CHIP 33uF 20% 10V
C13	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C14	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C15	1-135-125-21	s	TANTALUM CHIP 33uF 20% 10V
CN1	1-563-691-21	o	CONNECTOR, BOARD TO BOARD 18P
CN2	1-563-687-21	o	RECEPTACLE, BOARD TO BOARD 14P
CN3	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN4	1-565-150-11	o	PIN, CONNECTOR (ANGLE) 3P
CN5	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN6	1-565-151-11	o	CONNECTOR, 4P, MALE
CN7	1-565-160-11	o	PIN, CONNECTOR (ANGLE) 13P
CN8	1-565-150-11	o	PIN, CONNECTOR (ANGLE) 3P
D1	8-719-104-31	s	DIODE 1S2838
D2	8-719-104-31	s	DIODE 1S2838
D3	8-719-104-31	s	DIODE 1S2838
D5	8-719-104-31	s	DIODE 1S2838
D6	8-719-104-31	s	DIODE 1S2838
D7	8-719-104-31	s	DIODE 1S2838
IC1	8-759-243-06	s	IC TC74AC04F
IC2	8-759-243-06	s	IC TC74AC04F
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-100-66	s	TRANSISTOR 2SC1623
Q3	8-729-141-64	s	TRANSISTOR 2SC3735-B35
Q4	8-729-112-65	s	TRANSISTOR 2SA1462
R9	1-216-748-11	s	METAL CHIP 39K 5% 1/10W

DR-107 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	3-621-124-00	o	SPACER
C1	1-135-138-11	s	TANTAL,10uF 20% 25V
C2	1-135-076-21	s	TANTALUM CHIP 1uF 10% 35V
C3	1-135-076-21	s	TANTALUM CHIP 1uF 10% 35V
C4	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C5	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C6	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C7	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C9	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C11	1-163-235-11	s	CERAMIC 22PF 5% 50V
C13	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C14	1-135-213-21	s	TANTAL,3.3uF 20% 25V
C15	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C16	1-135-216-11	s	TANTAL,10uF 20% 10V
C17	1-163-102-00	s	CERAMIC CHIP 24PF 5% 50V
C20	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C21	1-135-213-21	s	TANTAL,3.3uF 20% 25V
C22	1-135-076-21	s	TANTALUM CHIP 1uF 10% 35V
C23	1-135-165-11	s	TANTALUM CHIP 33uF 10% 16V
CN1	1-566-257-31	o	RECEPTACLE, BOARD TO BOARD 11P
CN2	1-566-280-21	o	RECEPTACLE, BOARD TO BOARD 18P
CN3	1-566-276-21	o	RECEPTACLE, BOARD TO BOARD 14P
CN4	1-566-258-11	o	RECEPTACLE, BOARD TO BOARD 12P
D1	8-719-800-76	s	DIODE 1SS226
D2	8-719-104-31	s	DIODE 1S2838
D4	8-719-104-31	s	DIODE 1S2838
D5	8-719-104-31	s	DIODE 1S2838
IC1	8-759-925-80	s	IC SN74HC14NS
IC2	8-759-925-76	s	IC SN74HC08NS
IC3	8-759-100-95	s	IC UPC324G2
IC4	8-752-327-46	s	IC CXD1250M
IC5	8-752-327-46	s	IC CXD1250M
IC6	8-752-327-46	s	IC CXD1250M
L1	1-408-781-00	s	CHIP 22uH
L2	1-408-765-21	s	CHIP 1uH
L3	1-408-781-00	s	CHIP 22uH
L4	1-408-781-00	s	CHIP 22uH
Q1	8-729-144-56	s	TRANSISTER 2SC3617
Q2	8-729-100-66	s	TRANSISTOR 2SC1623
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-141-64	s	TRANSISTOR 2SC3735-B35
Q6	8-729-112-65	s	TRANSISTOR 2SA1462
Q7	8-729-112-65	s	TRANSISTOR 2SA1462
Q8	8-729-141-64	s	TRANSISTOR 2SC3735-B35
Q9	8-729-100-66	s	TRANSISTOR 2SC1623
Q10	8-729-216-22	s	TRANSISTOR 2SA1162
Q11	8-729-216-22	s	TRANSISTOR 2SA1162
RV4	1-230-867-11	s	RES, ADJ, METAL 1K
S1	1-572-328-31	s	CHIP

ES-2 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-214-A	o	MOUNTED CIRCUIT BOARD "ES-2(N)"
C1	1-124-589-11	s	ELECT 47uF 20% 10V
C2	1-126-154-11	s	ELECT 47uF 20% 6.3V
C3	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C4	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C5	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C6	1-126-157-11	s	ELECT 10uF 20% 16V
C8	1-126-392-11	s	ELECT 100uF 20% 6.3V
C9	1-124-584-00	s	ELECT 100uF 20% 10V
C10	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C13	1-135-161-21	s	TANTALUM CHIP 22uF 10% 10V
C14	1-135-166-21	s	TANTALUM CHIP 47uF 10% 10V
C15	1-163-251-11	s	CERAMIC 100PF 5% 50V
C16	1-135-166-21	s	TANTALUM CHIP 47uF 10% 10V
C17	1-135-085-21	s	TANTALUM CHIP 4.7uF 20% 16V
C18	1-126-157-11	s	ELECT 10uF 20% 16V
C19	1-163-224-11	s	CERAMIC 7PF +-0.25PF 50V
C20	1-135-161-21	s	TANTALUM CHIP 22uF 10% 10V
C21	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C22	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C23	1-126-392-11	s	ELECT 100uF 20% 6.3V
C24	1-135-166-21	s	TANTALUM CHIP 47uF 10% 10V
C26	1-135-161-21	s	TANTALUM CHIP 22uF 10% 10V
C28	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C29	1-163-235-11	s	CERAMIC 22PF 5% 50V
C30	1-126-176-11	s	ELECT 220uF 20% 10V
C34	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C35	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C36	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C37	1-126-392-11	s	ELECT 100uF 20% 6.3V
C38	1-163-099-00	s	CERAMIC CHIP 18PF 5% 50V
C39	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C40	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C43	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C44	1-126-176-11	s	ELECT 220uF 20% 10V
C46	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C53	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C56	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C60	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C61	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C63	1-163-245-11	s	CERAMIC 56PF 5% 50V
C64	1-163-245-11	s	CERAMIC 56PF 5% 50V
C70	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C73	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C74	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C81	1-135-085-21	s	TANTALUM CHIP 4.7uF 20% 16V
C203	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
CN1	1-565-780-11	o	RECEPTACLE,TX(P.L)(PC BOARD)50P
D1	8-719-104-34	s	DIODE 1S2836
D2	8-719-104-34	s	DIODE 1S2836
FL1	1-235-161-00	s	BAND PASS 3.58MHz
IC1	8-759-710-24	s	IC NJM319M
IC2	8-759-300-71	s	IC MC14053BF
IC3	8-759-204-57	s	IC TC40H076AF
IC4	8-759-009-10	s	IC MC14069UBF
IC5	1-807-836-11	s	HYBRID-IC (SYNC SEP)

(ES-2 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC6	1-808-513-12	s	IC IB-38
IC7	8-759-907-81	s	IC SN74LS221NS
IC8	8-741-134-00	s	IC BX1340
IC9	1-808-514-11	s	IC IB-37
IC10	8-752-332-67	s	IC CXD1217M
IC11	8-759-209-90	s	IC TC4S71F
IC12	8-759-209-15	s	IC TC4SU69F
IC13	8-759-231-32	s	IC TC7S00F
L1	1-408-781-00	s	CHIP 22uH
L2	1-408-777-00	s	CHIP 10uH
L3	1-408-781-00	s	CHIP 22uH
L4	1-408-781-00	s	CHIP 22uH
L6	1-408-781-00	s	CHIP 22uH
L7	1-408-781-00	s	CHIP 22uH
L8	1-408-781-00	s	CHIP 22uH
L9	1-408-785-21	s	CHIP 47uH
L10	1-408-781-00	s	CHIP 22uH
L11	1-408-777-00	s	CHIP 10uH
L12	1-408-785-21	s	CHIP 47uH
L13	1-408-783-00	s	CHIP 33uH
L14	1-408-785-21	s	CHIP 47uH
L15	1-408-785-21	s	CHIP 47uH
L16	1-408-785-21	s	CHIP 47uH
L17	1-408-785-21	s	CHIP 47uH
L18	1-408-784-11	s	CHIP 39uH
L19	1-408-785-21	s	CHIP 47uH
L20	1-408-785-21	s	CHIP 47uH
L101	1-408-777-00	s	CHIP 10uH
L201	1-408-785-21	s	CHIP 47uH
LV1	1-408-844-00	s	22uH
Q1	8-729-402-84	s	TRANSISTOR XN4601
Q2	8-729-402-19	s	TRANSISTOR XN6501
Q3	8-729-122-63	s	TRANSISTOR 2SA1226
Q4	8-729-402-19	s	TRANSISTOR XN6501
Q5	8-729-402-78	s	TRANSISTOR XN6401
Q6	8-729-100-66	s	TRANSISTOR 2SC1623
Q7	8-729-175-73	s	TRANSISTOR 2SC2757
Q8	8-729-216-22	s	TRANSISTOR 2SA1162
Q9	8-729-402-19	s	TRANSISTOR XN6501
Q11	8-729-100-66	s	TRANSISTOR 2SC1623
Q12	8-729-402-19	s	TRANSISTOR XN6501
Q13	8-729-402-19	s	TRANSISTOR XN6501
Q14	8-729-216-22	s	TRANSISTOR 2SA1162
Q15	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-109-41	s	TRANSISTOR 2SK94-X1
RV1	1-230-523-11	s	RES, ADJ, METAL 10K
RV2	1-230-519-11	s	RES, ADJ, METAL 470
RV3	1-230-521-11	s	RES, ADJ, METAL 2.2K
RV4	1-230-519-11	s	RES, ADJ, METAL 470
RV5	1-230-524-11	s	RES, ADJ, METAL 22K
RV6	1-230-522-11	s	RES, ADJ, METAL 4.7K
RV7	1-230-521-11	s	RES, ADJ, METAL 2.2K
RV8	1-230-524-11	s	RES, ADJ, METAL 22K

IE-29 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-229-A	o	MOUNTED CIRCUIT BOARD "IE-29(N)"
C1	1-124-584-00	s	ELECT 100uF 20% 10V
C5	1-163-227-11	s	CERAMIC 10PF 5% 50V
C7	1-131-377-00	s	TANTALUM 10uF 10% 10V
C12	1-131-365-00	s	TANTALUM 10uF 10% 16V
C18	1-163-100-00	s	CERAMIC CHIP 20PF 5% 50V
C19	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C20	1-164-182-11	s	CERAMIC 0.0033uF 10% 50V
C21	1-124-584-00	s	ELECT 100uF 20% 10V
C23	1-124-589-11	s	ELECT 47uF 20% 10V
C24	1-124-589-11	s	ELECT 47uF 20% 10V
C26	1-126-096-11	s	ELECT 10uF 20% 35V
C28	1-131-347-00	s	TANTALUM 1uF 10% 35V
C29	1-131-365-00	s	TANTALUM 10uF 10% 16V
C33	1-163-227-11	s	CERAMIC 10PF 5% 50V
C34	1-163-103-00	s	CERAMIC CHIP 27PF 5% 50V
C36	1-126-163-11	s	ELECT 4.7uF 20% 50V
C37	1-124-234-00	s	ELECT 22uF 20% 16V
C38	1-131-347-00	s	TANTALUM 1uF 10% 35V
C39	1-131-347-00	s	TANTALUM 1uF 10% 35V
C42	1-126-096-11	s	ELECT 10uF 20% 35V
C44	1-124-589-11	s	ELECT 47uF 20% 10V
C45	1-126-096-11	s	ELECT 10uF 20% 35V
C47	1-126-096-11	s	ELECT 10uF 20% 35V
C49	1-163-092-00	s	CERAMIC CHIP 9PF 0.25PF 50V
C50	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C51	1-163-115-00	s	CERAMIC CHIP 82PF 5% 50V
C52	1-126-096-11	s	ELECT 10uF 20% 35V
C53	1-126-096-11	s	ELECT 10uF 20% 35V
C55	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C57	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C60	1-126-096-11	s	ELECT 10uF 20% 35V
C70	1-126-096-11	s	ELECT 10uF 20% 35V
C71	1-126-096-11	s	ELECT 10uF 20% 35V
C72	1-131-377-00	s	TANTALUM 10uF 10% 10V
C74	1-126-096-11	s	ELECT 10uF 20% 35V
C75	1-131-347-00	s	TANTALUM 1uF 10% 35V
C77	1-131-344-00	s	TANTALUM 0.33uF 10% 35V
C78	1-131-365-00	s	TANTALUM 10uF 10% 16V
C80	1-131-377-00	s	TANTALUM 10uF 10% 10V
C82	1-126-163-11	s	ELECT 4.7uF 20% 50V
C85	1-126-096-11	s	ELECT 10uF 20% 35V
C86	1-126-096-11	s	ELECT 10uF 20% 35V
C87	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C88	1-163-235-11	s	CERAMIC 22PF 5% 50V
C91	1-126-096-11	s	ELECT 10uF 20% 35V
C92	1-131-365-00	s	TANTALUM 10uF 10% 16V
C93	1-131-365-00	s	TANTALUM 10uF 10% 16V
C94	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C95	1-163-096-00	s	CERAMIC CHIP 13PF 5% 50V
CN1	1-566-268-21	o	RECEPTACLE, BOARD TO BOARD 6P
CN2	1-566-275-21	o	RECEPTACLE, BOARD TO BOARD 13P
D1	8-719-800-76	s	DIODE 1SS226
D4	8-719-101-97	s	DIODE 1SS97-1
D5	8-719-101-97	s	DIODE 1SS97-1
DL1	1-415-305-71	s	DELAY LINE (1H)

(IE-29 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC1	8-759-981-51	s	IC RC1496M
IC2	8-759-031-58	s	IC SC7SU04F
IC3	8-759-300-71	s	IC MC14053BF
IC4	8-759-300-71	s	IC MC14053BF
IC5	8-759-702-02	s	IC NJM062M
IC6	8-752-332-69	s	IC CXL5504M
IC7	8-759-926-28	s	IC SN74HC174NS
IC8	8-759-925-72	s	IC SN74HC02NS
IC9	8-759-925-72	s	IC SN74HC02NS
IC10	8-759-702-02	s	IC NJM062M
L1	1-408-425-00	s	220uH
L2	1-408-413-00	s	MICRO 22uH
L3	1-408-413-00	s	MICRO 22uH
L4	1-408-413-00	s	MICRO 22uH
L5	1-408-413-00	s	MICRO 22uH
L7	1-410-471-11	s	12uH
L8	1-408-414-00	s	27uH
L9	1-408-416-00	s	39uH
L11	1-408-414-00	s	27uH
L12	1-408-418-00	s	MICRO 56uH
L13	1-408-429-00	s	INDUCTOR 470uH
L14	1-408-411-00	s	15uH
L15	1-408-411-00	s	15uH
L16	1-408-780-21	s	CHIP 18uH
Q1	8-729-100-66	s	TRANSISTOR 2SC1623
Q2	8-729-175-73	s	TRANSISTOR 2SC2757
Q3	8-729-175-73	s	TRANSISTOR 2SC2757
Q4	8-729-122-63	s	TRANSISTOR 2SA1226
Q5	8-729-122-63	s	TRANSISTOR 2SA1226
Q6	8-729-175-73	s	TRANSISTOR 2SC2757
Q7	8-729-175-73	s	TRANSISTOR 2SC2757
Q8	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q9	8-729-175-73	s	TRANSISTOR 2SC2757
Q10	8-729-175-73	s	TRANSISTOR 2SC2757
Q11	8-729-175-73	s	TRANSISTOR 2SC2757
Q12	8-729-175-73	s	TRANSISTOR 2SC2757
Q13	8-729-175-73	s	TRANSISTOR 2SC2757
Q14	8-729-175-73	s	TRANSISTOR 2SC2757
Q15	8-729-175-73	s	TRANSISTOR 2SC2757
Q16	8-729-100-66	s	TRANSISTOR 2SC1623
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-216-22	s	TRANSISTOR 2SA1162
Q19	8-729-216-22	s	TRANSISTOR 2SA1162
Q21	8-729-100-66	s	TRANSISTOR 2SC1623
Q22	8-729-100-66	s	TRANSISTOR 2SC1623
Q23	8-729-216-22	s	TRANSISTOR 2SA1162
Q24	8-729-100-66	s	TRANSISTOR 2SC1623
Q25	8-729-100-66	s	TRANSISTOR 2SC1623
Q26	8-729-216-22	s	TRANSISTOR 2SA1162
Q27	8-729-216-22	s	TRANSISTOR 2SA1162
Q28	8-729-100-66	s	TRANSISTOR 2SC1623
Q29	8-729-100-66	s	TRANSISTOR 2SC1623
Q30	8-729-100-66	s	TRANSISTOR 2SC1623
Q31	8-729-100-66	s	TRANSISTOR 2SC1623
Q32	8-729-100-66	s	TRANSISTOR 2SC1623
Q33	8-729-100-66	s	TRANSISTOR 2SC1623
Q34	8-729-100-66	s	TRANSISTOR 2SC1623
Q35	8-729-100-66	s	TRANSISTOR 2SC1623
Q36	8-729-100-66	s	TRANSISTOR 2SC1623

(IE-29 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q37	8-729-100-66	s	TRANSISTOR 2SC1623
Q38	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q39	8-729-100-66	s	TRANSISTOR 2SC1623
Q40	8-729-216-22	s	TRANSISTOR 2SA1162
Q41	8-729-175-73	s	TRANSISTOR 2SC2757
Q42	8-729-175-73	s	TRANSISTOR 2SC2757
Q43	8-729-100-66	s	TRANSISTOR 2SC1623
Q44	8-729-216-22	s	TRANSISTOR 2SA1162
Q45	8-729-216-22	s	TRANSISTOR 2SA1162
Q46	8-729-100-66	s	TRANSISTOR 2SC1623
Q48	8-729-100-66	s	TRANSISTOR 2SC1623
Q49	8-729-100-66	s	TRANSISTOR 2SC1623
Q50	8-729-216-22	s	TRANSISTOR 2SA1162
Q51	8-729-100-66	s	TRANSISTOR 2SC1623
Q52	8-729-100-66	s	TRANSISTOR 2SC1623
Q53	8-729-216-22	s	TRANSISTOR 2SA1162
Q54	8-729-216-22	s	TRANSISTOR 2SA1162
Q55	8-729-216-22	s	TRANSISTOR 2SA1162
Q56	8-729-100-66	s	TRANSISTOR 2SC1623
Q57	8-729-175-73	s	TRANSISTOR 2SC2757
R17	1-216-003-11	s	METAL CHIP 12 5% 1/10W
R43	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
RV1	1-226-703-11	s	RES, ADJ, METAL 10K
RV2	1-226-771-11	s	RES, ADJ, METAL 1K
RV3	1-238-221-11	s	RES, ADJ, METAL 2.2K
RV4	1-228-519-00	s	RES, ADJ, METAL 2.2K
RV5	1-226-770-11	s	RES, ADJ, METAL 470
RV6	1-237-603-11	s	RES, ADJ, METAL 2.2K
S1	1-553-977-00	s	SWITCH, SLIDE

MB-325 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-212-A	o	MOUNTED CIRCUIT BOARD "MB-325(N)"
C1	1-124-584-00	s	ELECT 100uF 20% 10V
C3	1-124-148-00	s	ELECT 100uF 20% 25V
C5	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C7	1-124-148-00	s	ELECT 100uF 20% 25V
C8	1-124-148-00	s	ELECT 100uF 20% 25V
C9	1-163-227-11	s	CERAMIC 10PF 5% 50V
C18	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C19	1-135-216-11	s	TANTAL,10uF 20% 10V
C21	1-135-216-11	s	TANTAL,10uF 20% 10V
CN1	1-565-781-11	o	RECEPTACLE,TX(S.S)(PC BOARD)50P
CN2	1-565-781-11	o	RECEPTACLE,TX(S.S)(PC BOARD)50P
CN3	1-566-579-11	o	CONNECTOR, MULTI 50P
CN4	1-566-516-11	s	RECEPTACLE, FPC (ZIF) 16P
CN5	1-506-490-21	o	CONNECTOR, 11P, MALE
CN6	1-506-471-11	o	CONNECTOR, 6P, MALE
CN7	1-566-199-11	o	PIN, CONNECTOR (PC BOARD) 6P
CN8	1-506-467-11	o	CONNECTOR, 2P, MALE
CN9	1-506-487-11	o	CONNECTOR, 8P, MALE
	1-569-202-31	o	HOUSING, 9P
	1-569-191-11	o	TERMINAL, SOLDERLESS
	1-569-193-11	o	CONTACT
CN10	1-560-356-00	o	CONNECTOR POST HEADER, ILG (2P) MAL
	1-561-514-00	o	HOUSING, ILG 2P FEMALE
	1-560-372-00	o	CONTACT, AWG22-28
CN11	1-506-468-11	o	CONNECTOR, 3P, MALE
CN13	1-506-488-11	o	CONNECTOR, 9P, MALE
CN14	1-506-481-11	o	CONNECTOR, 2P, MALE
CN15	1-506-481-11	o	CONNECTOR, 2P, MALE
CN16	1-506-481-11	o	CONNECTOR, 2P, MALE
CN17	1-506-481-11	o	CONNECTOR, 2P, MALE
	1-562-147-11	o	HOUSING, 2P
	1-569-193-11	o	CONTACT
CN19	1-506-472-11	o	CONNECTOR, 7P, MALE
CN21	1-506-482-11	o	CONNECTOR, 3P, MALE
CN22	1-565-210-11	s	RECEPTACLE, FPC (ZIF) 30P
D1	8-719-815-85	s	DIODE 1S1585
D2	8-719-815-85	s	DIODE 1S1585
D3	8-719-105-90	s	DIODE RD5.6M-B1
IC1	8-759-209-90	s	IC TC4S71F
IC2	8-759-209-69	s	IC TC4S11F
IC3	8-759-150-17	s	IC CXD8154M
L1	1-408-096-00	s	470uH
L2	1-408-096-00	s	470uH
L4	1-408-767-21	s	CHIP 1.5uH
PU1	1-466-426-11	s	CONVERTER UNIT, DC-DC
Q1	8-729-100-66	s	TRANSISTOR 2SC1623
Q2	8-729-100-66	s	TRANSISTOR 2SC1623
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-216-22	s	TRANSISTOR 2SA1162
Q6	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q7	8-729-100-66	s	TRANSISTOR 2SC1623
Q8	8-729-140-75	s	TRANSISTER 2SD999-CLOCK
Q9	8-729-101-07	s	TRANSISTOR 2SB798-DL

(MB-325 BOARD)

Ref. No. or Q'ty		Part No.	SP	Description
Q10		8-729-216-22	s	TRANSISTOR 2SA1162
Q11		8-729-100-66	s	TRANSISTOR 2SC1623
Q12		8-729-216-22	s	TRANSISTOR 2SA1162
Q13		8-729-100-66	s	TRANSISTOR 2SC1623
Q14		8-729-216-22	s	TRANSISTOR 2SA1162
R21		1-249-399-11	s	CARBON 33 5% 1/4W
R22		1-249-399-11	s	CARBON 33 5% 1/4W
R27	⚠	1-216-369-00	s	METAL 1 5% 2W
S1		1-553-977-00	s	SWITCH, SLIDE
S2		1-553-977-00	s	SWITCH, SLIDE

MX-18 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-163-224-11	s	CERAMIC 7PF +-0.25PF 50V
C3	1-163-099-00	s	CERAMIC CHIP 18PF 5% 50V
C4	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C11	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
CN1	1-566-095-11	s	PIN, BOARD TO BOARD 10P
CN2	1-566-095-11	s	PIN, BOARD TO BOARD 10P
L1	1-408-795-21	s	CHIP 330uH
L2	1-408-795-21	s	CHIP 330uH
Q1	8-729-403-29	s	TRANSISTOR XN6435
Q2	8-729-402-16	s	TRANSISTOR XN4608
Q3	8-729-402-19	s	TRANSISTOR XN6501
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-402-78	s	TRANSISTOR XN6401
Q6	8-729-402-19	s	TRANSISTOR XN6501
Q7	8-729-100-66	s	TRANSISTOR 2SC1623
Q8	8-729-216-22	s	TRANSISTOR 2SA1162
Q9	8-729-402-78	s	TRANSISTOR XN6401
R1	1-218-254-11	s	METAL CHIP 2.55K 0.50% 1/10W
R2	1-218-257-11	s	METAL CHIP 4.99K 0.50% 1/10W
R3	1-218-259-11	s	METAL CHIP 13.7K 0.50% 1/10W
R12	1-218-255-11	s	METAL CHIP 2.67K 0.50% 1/10W
R13	1-218-253-11	s	METAL CHIP 2.32K 0.50% 1/10W
R28	1-218-256-11	s	METAL CHIP 3.32K 0.50% 1/10W
R29	1-218-252-11	s	METAL CHIP 2.26K 0.50% 1/10W
RV1	1-238-220-11	s	RES, ADJ, METAL 1K
RV2	1-238-222-11	s	RES, ADJ, METAL 4.7K
RV3	1-238-221-11	s	RES, ADJ, METAL 2.2K
RV4	1-238-219-11	s	RES, VAR, METAL 470

PA-106 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-218-A	o	MOUNTED CIRCUIT BOARD "PA-106"
2pcs	1-565-164-11	o	CONTACT, FEMALE AWG26-28
2pcs	1-566-987-11	o	CONTACT, AWG28-32
1pc	1-569-193-11	o	CONTACT
C1	1-135-154-21	s	TANTALUM CHIP 3.3uF 10% 20V
C2	1-135-152-21	s	TANTAL,1.5uF 20% 35V
C3	1-135-166-21	s	TANTALUM CHIP 47uF 10% 10V
C4	1-135-177-21	s	TANTALUM 1uF 10% 25V
C5	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C6	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C8	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C9	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C19	1-135-211-11	s	TANTAL,6.8uF 20% 6.3V
C22	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C27	1-135-091-00	s	TANTALUM CHIP 1uF 20% 16V
C30	1-135-215-21	s	TANTAL,6.8uF 20% 16V
C31	1-124-584-00	s	ELECT 100uF 20% 10V
CN1	1-565-794-11	o	HOUSING, 13P
CN2	1-566-989-11	o	HOUSING, 3P
CN7	1-565-132-11	o	HOUSING, 13P
CN8	1-565-122-11	o	HOUSING, 3P
CN14	1-562-147-11	o	HOUSING, 2P
Q1	8-729-175-73	s	TRANSISTOR 2SC2757
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q3	8-765-930-08	s	TRANSISTOR 3SK163-2
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-216-22	s	TRANSISTOR 2SA1162
Q6	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-100-66	s	TRANSISTOR 2SC1623
Q11	8-729-216-22	s	TRANSISTOR 2SA1162
Q12	8-765-930-08	s	TRANSISTOR 3SK163-2
Q13	8-729-100-66	s	TRANSISTOR 2SC1623
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-100-66	s	TRANSISTOR 2SC1623
Q19	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-100-66	s	TRANSISTOR 2SC1623
Q21	8-729-216-22	s	TRANSISTOR 2SA1162
Q22	8-729-100-66	s	TRANSISTOR 2SC1623
Q24	8-729-100-66	s	TRANSISTOR 2SC1623
R10	1-216-748-11	s	METAL CHIP 39K 5% 1/10W

PA-107B BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-220-A	o	MOUNTED CIRCUIT BOARD "PA-107B"
2pcs	1-565-164-11	o	CONTACT, FEMALE AWG26-28
2pcs	1-566-987-11	o	CONTACT, AWG28-32
1pc	1-569-193-11	o	CONTACT
C1	1-135-154-21	s	TANTALUM CHIP 3.3uF 10% 20V
C2	1-135-152-21	s	TANTAL,1.5uF 20% 35V
C3	1-135-166-21	s	TANTALUM CHIP 47uF 10% 10V
C4	1-135-177-21	s	TANTALUM 1uF 10% 25V
C5	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C6	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C8	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C9	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C19	1-135-211-11	s	TANTAL,6.8uF 20% 6.3V
C22	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C27	1-135-091-00	s	TANTALUM CHIP 1uF 20% 16V
C30	1-135-089-21	s	TANTALUM CHIP 6.8uF 10% 20V
C31	1-124-584-00	s	ELECT 100uF 20% 10V
CN1	1-565-794-11	o	HOUSING, 13P
CN2	1-566-989-11	o	HOUSING, 3P
CN7	1-565-132-11	o	HOUSING, 13P
CN8	1-565-122-11	o	HOUSING, 3P
CN16	1-562-147-11	o	HOUSING, 2P
Q1	8-729-175-73	s	TRANSISTOR 2SC2757
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q3	8-765-930-08	s	TRANSISTOR 3SK163-2
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-216-22	s	TRANSISTOR 2SA1162
Q9	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-100-66	s	TRANSISTOR 2SC1623
Q11	8-729-216-22	s	TRANSISTOR 2SA1162
Q15	8-765-930-08	s	TRANSISTOR 3SK163-2
Q16	8-729-100-66	s	TRANSISTOR 2SC1623
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-100-66	s	TRANSISTOR 2SC1623
Q19	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-100-66	s	TRANSISTOR 2SC1623
Q21	8-729-216-22	s	TRANSISTOR 2SA1162
Q22	8-729-100-66	s	TRANSISTOR 2SC1623
Q24	8-729-100-66	s	TRANSISTOR 2SC1623
R10	1-216-748-11	s	METAL CHIP 39K 5% 1/10W
R33	1-216-628-11	s	METAL CHIP 110 0.50% 1/10W

PA-107G BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-219-A	o	MOUNTED CIRCUIT BOARD "PA-107G"
2pcs	1-565-164-11	o	CONTACT, FEMALE AWG26-28
2pcs	1-566-987-11	o	CONTACT, AWG28-32
1pc	1-569-193-11	o	CONTACT
C1	1-135-154-21	s	TANTALUM CHIP 3.3uF 10% 20V
C2	1-135-152-21	s	TANTAL,1.5uF 20% 35V
C3	1-135-166-21	s	TANTALUM CHIP 47uF 10% 10V
C4	1-135-177-21	s	TANTALUM 1uF 10% 25V
C5	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C6	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C8	1-135-164-21	s	TANTALUM CHIP 22uF 10% 20V
C9	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C19	1-135-211-11	s	TANTAL,6.8uF 20% 6.3V
C22	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C27	1-135-091-00	s	TANTALUM CHIP 1uF 20% 16V
C30	1-135-089-21	s	TANTALUM CHIP 6.8uF 10% 20V
C31	1-124-584-00	s	ELECT 100uF 20% 10V
CN1	1-565-794-11	o	HOUSING, 13P
CN2	1-566-990-11	o	HOUSING, 4P
CN6	1-565-123-11	o	HOUSING, 4P
CN7	1-565-132-11	o	HOUSING, 13P
CN15	1-562-147-11	o	HOUSING, 2P
Q1	8-729-175-73	s	TRANSISTOR 2SC2757
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q3	8-765-930-08	s	TRANSISTOR 3SK163-2
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-216-22	s	TRANSISTOR 2SA1162
Q6	8-765-930-08	s	TRANSISTOR 3SK163-2
Q7	8-729-100-66	s	TRANSISTOR 2SC1623
Q8	8-729-216-22	s	TRANSISTOR 2SA1162
Q9	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-100-66	s	TRANSISTOR 2SC1623
Q11	8-729-216-22	s	TRANSISTOR 2SA1162
Q12	8-765-930-08	s	TRANSISTOR 3SK163-2
Q13	8-729-100-66	s	TRANSISTOR 2SC1623
Q14	8-729-216-22	s	TRANSISTOR 2SA1162
Q15	8-765-930-08	s	TRANSISTOR 3SK163-2
Q16	8-729-100-66	s	TRANSISTOR 2SC1623
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-100-66	s	TRANSISTOR 2SC1623
Q19	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-100-66	s	TRANSISTOR 2SC1623
Q21	8-729-216-22	s	TRANSISTOR 2SA1162
Q22	8-729-100-66	s	TRANSISTOR 2SC1623
Q24	8-729-100-66	s	TRANSISTOR 2SC1623
R10	1-216-748-11	s	METAL CHIP 39K 5% 1/10W
R33	1-216-632-11	s	METAL CHIP 160 0.50% 1/10W

PR-147 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
C2	1-135-091-00	s	TANTALUM CHIP 1uF 20% 16V
C3	1-135-091-00	s	TANTALUM CHIP 1uF 20% 16V
C4	1-135-091-00	s	TANTALUM CHIP 1uF 20% 16V
C5	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C6	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C7	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C8	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C9	1-163-224-11	s	CERAMIC 7PF +-0.25PF 50V
C11	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C12	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C14	1-163-235-11	s	CERAMIC 22PF 5% 50V
C15	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C16	1-135-216-11	s	TANTAL,10uF 20% 10V
C17	1-135-216-11	s	TANTAL,10uF 20% 10V
C18	1-163-235-11	s	CERAMIC 22PF 5% 50V
C19	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C20	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
CN1	1-566-095-11	s	PIN, BOARD TO BOARD 10P
CN2	1-566-095-11	s	PIN, BOARD TO BOARD 10P
D1	8-719-104-34	s	DIODE 1S2836
D2	8-719-104-34	s	DIODE 1S2836
D3	8-719-104-34	s	DIODE 1S2836
IC1	8-759-906-53	s	IC TL062CPS
Q1	8-729-175-73	s	TRANSISTOR 2SC2757
Q2	8-729-100-66	s	TRANSISTOR 2SC1623
Q3	8-729-175-73	s	TRANSISTOR 2SC2757
Q4	8-729-175-73	s	TRANSISTOR 2SC2757
Q5	8-729-175-73	s	TRANSISTOR 2SC2757
Q6	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q7	8-729-122-63	s	TRANSISTOR 2SA1226
Q8	8-729-100-66	s	TRANSISTOR 2SC1623
Q9	8-729-402-78	s	TRANSISTOR XN6401
Q10	8-729-403-29	s	TRANSISTOR XN6435
Q11	8-729-403-32	s	TRANSISTOR XN6534
RV1	1-238-219-11	s	RES, VAR, METAL 470
RV2	1-238-222-11	s	RES, ADJ, METAL 4.7K

PR-148 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-223-A	o	MOUNTED CIRCUIT BOARD "PR-148(N)"
C1	1-126-157-11	s	ELECT 10uF 20% 16V
C7	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C9	1-163-227-11	s	CERAMIC 10PF 5% 50V
C11	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C13	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C13	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C14	1-124-589-11	s	ELECT 47uF 20% 10V
C17	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C24	1-124-472-11	s	ELECT 470uF 20% 10V
C25	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C26	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C37	1-126-157-11	s	ELECT 10uF 20% 16V
C38	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C39	1-124-589-11	s	ELECT 47uF 20% 10V
C40	1-164-161-11	s	CERAMIC CHIP 0.0022uF 10% 50V
C41	1-126-157-11	s	ELECT 10uF 20% 16V
C42	1-126-157-11	s	ELECT 10uF 20% 16V
C43	1-126-157-11	s	ELECT 10uF 20% 16V
C44	1-124-472-11	s	ELECT 470uF 20% 10V
C50	1-163-251-11	s	CERAMIC 100PF 5% 50V
C51	1-164-161-11	s	CERAMIC CHIP 0.0022uF 10% 50V
C53	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
CN1	1-563-679-21	o	RECEPTACLE, BOARD TO BOARD 6P
CN2	1-563-686-21	o	RECEPTACLE, BOARD TO BOARD 13P
CN3	1-565-780-11	o	RECEPTACLE,TX(P.L)(PC BOARD)50P
D3	8-719-104-34	s	DIODE 1S2836
D4	8-719-104-34	s	DIODE 1S2836
D6	8-719-914-12	s	DIODE HZ4BLL
D7	8-719-914-12	s	DIODE HZ4BLL
D8	8-719-914-12	s	DIODE HZ4BLL
D9	8-719-104-34	s	DIODE 1S2836
D10	8-719-104-34	s	DIODE 1S2836
DL1	1-415-307-00	s	165nS
DL2	1-415-307-00	s	165nS
DL3	1-415-307-00	s	165nS
IC1	8-759-204-40	s	IC TC40H027F
IC2	8-759-201-50	s	IC TC40H193F
IC3	8-759-906-54	s	IC TL064CNS
IC4	8-759-201-53	s	IC TC40H000F
IC5	8-759-209-97	s	IC TC4S81F
IC6	8-759-209-97	s	IC TC4S81F
IC7	8-759-209-97	s	IC TC4S81F
IC8	8-759-300-71	s	IC MC14053BF
IC9	8-759-209-97	s	IC TC4S81F
IC10	8-759-209-69	s	IC TC4S11F
IC11	8-759-209-97	s	IC TC4S81F
IC12	8-759-209-54	s	IC TC4S01F
IC13	8-759-209-15	s	IC TC4SU69F
LP1	1-409-427-11	s	FILTER, TRAP 14.3MHz
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-100-66	s	TRANSISTOR 2SC1623

(PR-148 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q6	8-729-100-66	s	TRANSISTOR 2SC1623
Q7	8-729-901-46	s	TRANSISTOR DTA114YK
Q8	8-729-900-52	s	TRANSISTER DTC114YK
Q9	8-729-900-52	s	TRANSISTER DTC114YK
Q10	8-729-216-22	s	TRANSISTOR 2SA1162
Q11	8-729-216-22	s	TRANSISTOR 2SA1162
Q12	8-729-216-22	s	TRANSISTOR 2SA1162
Q13	8-729-100-66	s	TRANSISTOR 2SC1623
Q19	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-100-66	s	TRANSISTOR 2SC1623
Q21	8-729-100-66	s	TRANSISTOR 2SC1623
Q22	8-729-100-66	s	TRANSISTOR 2SC1623
Q23	8-729-100-66	s	TRANSISTOR 2SC1623
Q24	8-729-100-66	s	TRANSISTOR 2SC1623
Q25	8-729-100-66	s	TRANSISTOR 2SC1623
Q26	8-729-901-46	s	TRANSISTOR DTA114YK
Q31	8-729-216-22	s	TRANSISTOR 2SA1162
Q32	8-729-100-66	s	TRANSISTOR 2SC1623
Q33	8-729-100-66	s	TRANSISTOR 2SC1623
Q34	8-729-109-41	s	TRANSISTOR 2SK94-X1
R125	1-216-748-11	s	METAL CHIP 39K 5% 1/10W
RV1	1-226-703-11	s	RES, ADJ, METAL 10K
RV2	1-226-771-11	s	RES, ADJ, METAL 1K
RV3	1-226-771-11	s	RES, ADJ, METAL 1K
RV4	1-226-771-11	s	RES, ADJ, METAL 1K
RV5	1-226-771-11	s	RES, ADJ, METAL 1K
RV6	1-238-222-11	s	RES, ADJ, METAL 4.7K
RV7	1-238-222-11	s	RES, ADJ, METAL 4.7K
RV8	1-238-222-11	s	RES, ADJ, METAL 4.7K
RV9	1-226-702-00	s	RES, ADJ, METAL 2.2K
RV10	1-226-702-00	s	RES, ADJ, METAL 2.2K
RV11	1-226-702-00	s	RES, ADJ, METAL 2.2K
RV12	1-238-225-11	s	RES, ADJ, METAL 47K
RV13	1-238-225-11	s	RES, ADJ, METAL 47K
RV14	1-238-225-11	s	RES, ADJ, METAL 47K
RV15	1-238-225-11	s	RES, ADJ, METAL 47K
RV16	1-238-225-11	s	RES, ADJ, METAL 47K
RV17	1-238-225-11	s	RES, ADJ, METAL 47K
RV18	1-238-225-11	s	RES, ADJ, METAL 47K
RV19	1-238-225-11	s	RES, ADJ, METAL 47K
RV20	1-238-225-11	s	RES, ADJ, METAL 47K
RV21	1-238-225-11	s	RES, ADJ, METAL 47K
RV22	1-238-225-11	s	RES, ADJ, METAL 47K

SW-445 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7520-515-A	o	MOUNTED CIRCUIT BOARD "SW-445"
1pc	1-569-193-11	o	CONTACT
CN3	1-569-195-11	s	HOUSING, CONNECTOR 2P
CN8	1-569-195-11	s	HOUSING, CONNECTOR 2P
S1	1-553-739-21	s	SWITCH, PUSH
S2	1-553-739-21	s	SWITCH, PUSH
S3	1-553-739-21	s	SWITCH, PUSH
SW001	1-554-486-00	s	SWITCH, TOGGLE

SW-446 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7520-516-A	o	MOUNTED CIRCUIT BOARD "SW-446"
1pc	1-562-736-11	o	HOUSING, 3P
1pc	1-564-831-11	o	CONTACT
1pc	1-569-193-11	o	CONTACT
CN4	1-569-196-11	o	HOUSING, 3P
S1	1-570-985-11	s	SWITCH, TOGGLE
S2	1-570-985-11	s	SWITCH, TOGGLE

TG-72 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-216-A	o	MOUNTED CIRCUIT BOARD "TG-72(N)"
C4	1-163-251-11	s	CERAMIC 100PF 5% 50V
C6	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C7	1-135-125-21	s	TANTALUM CHIP 33uF 20% 10V
C9	1-135-161-21	s	TANTALUM CHIP 22uF 10% 10V
C19	1-135-125-21	s	TANTALUM CHIP 33uF 20% 10V
CN1	1-563-684-31	o	RECEPTACLE, BOARD TO BOARD 11P
CN2	1-563-685-31	o	RECEPTACLE, BOARD TO BOARD 12P
CN3	1-563-684-31	o	RECEPTACLE, BOARD TO BOARD 11P
CN4	1-563-684-31	o	RECEPTACLE, BOARD TO BOARD 11P
CP1	1-577-181-11	s	OSCILLATOR, CRYSTAL
IC1	8-752-333-20	s	IC CXD1255Q
IC2	8-759-925-83	s	IC SN74HC27NS
IC3	8-759-985-18	s	IC 74AC08SJ
IC4	8-759-204-96	s	IC TC74HC04F
IC5	8-759-925-76	s	IC SN74HC08NS
IC6	8-759-031-43	s	IC SC14S81F
L1	1-408-781-00	s	CHIP 22uH
L2	1-408-781-00	s	CHIP 22uH

VA-105B BOARD

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-163-235-11	s	CERAMIC 22PF 5% 50V
C2	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C3	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C7	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C8	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C9	1-135-216-11	s	TANTAL,10uF 20% 10V
C10	1-135-216-11	s	TANTAL,10uF 20% 10V
C11	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C12	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C13	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C14	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C15	1-135-072-21	s	TANTALUM CHIP 0.22uF 20% 35V
C18	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
C19	1-163-251-11	s	CERAMIC 100PF 5% 50V
C20	1-135-072-21	s	TANTALUM CHIP 0.22uF 20% 35V
C21	1-135-145-11	s	TANTALUM CHIP 0.47uF 20% 25V
C23	1-135-216-11	s	TANTAL,10uF 20% 10V
CN1	1-566-095-11	s	PIN, BOARD TO BOARD 10P
CN2	1-566-095-11	s	PIN, BOARD TO BOARD 10P
D4	8-719-104-34	s	DIODE 1S2836
D5	8-719-104-34	s	DIODE 1S2836
IC1	8-759-981-51	s	IC RC1496M
IC2	8-759-906-53	s	IC TL062CPS
Q1	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q2	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-122-63	s	TRANSISTOR 2SA1226
Q6	8-729-100-66	s	TRANSISTOR 2SC1623
Q7	8-729-216-22	s	TRANSISTOR 2SA1162
Q8	8-729-402-19	s	TRANSISTOR XN6501
Q9	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q11	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q14	8-729-122-63	s	TRANSISTOR 2SA1226
Q15	8-729-175-73	s	TRANSISTOR 2SC2757
Q17	8-729-216-22	s	TRANSISTOR 2SA1162
Q18	8-729-109-41	s	TRANSISTOR 2SK94-X1
R18	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W

VA-105G BOARD

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-163-235-11	s	CERAMIC 22PF 5% 50V
C7	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C8	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C9	1-135-216-11	s	TANTAL,10uF 20% 10V
C10	1-135-216-11	s	TANTAL,10uF 20% 10V
C11	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C12	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C13	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C14	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C15	1-135-072-21	s	TANTALUM CHIP 0.22uF 20% 35V
C18	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
C19	1-163-251-11	s	CERAMIC 100PF 5% 50V
C20	1-135-072-21	s	TANTALUM CHIP 0.22uF 20% 35V
C21	1-135-145-11	s	TANTALUM CHIP 0.47uF 20% 25V
C23	1-135-216-11	s	TANTAL,10uF 20% 10V
C25	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
CN1	1-566-095-11	s	PIN, BOARD TO BOARD 10P
CN2	1-566-095-11	s	PIN, BOARD TO BOARD 10P
D4	8-719-104-34	s	DIODE 1S2836
D5	8-719-104-34	s	DIODE 1S2836
IC1	8-759-981-51	s	IC RC1496M
IC2	8-759-906-53	s	IC TL062CPS
Q1	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q2	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-122-63	s	TRANSISTOR 2SA1226
Q6	8-729-100-66	s	TRANSISTOR 2SC1623
Q7	8-729-216-22	s	TRANSISTOR 2SA1162
Q8	8-729-402-19	s	TRANSISTOR XN6501
Q9	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q11	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q14	8-729-122-63	s	TRANSISTOR 2SA1226
Q15	8-729-175-73	s	TRANSISTOR 2SC2757
Q17	8-729-216-22	s	TRANSISTOR 2SA1162
Q18	8-729-109-41	s	TRANSISTOR 2SK94-X1
R18	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R43	1-216-127-11	s	METAL, 1.8M 5% 1/10W

VA-105R BOARD

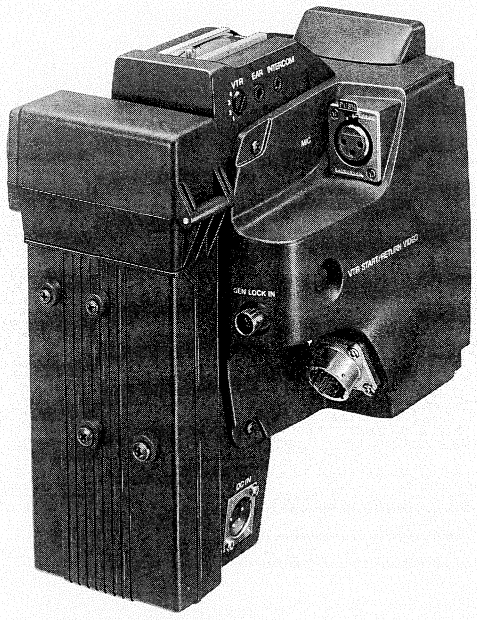
Ref. No. or Q'ty	Part No.	SP	Description
C1	1-163-235-11	s	CERAMIC 22PF 5% 50V
C7	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C8	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C9	1-135-216-11	s	TANTAL,10uF 20% 10V
C10	1-135-216-11	s	TANTAL,10uF 20% 10V
C11	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C12	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C13	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C14	1-135-159-21	s	TANTALUM CHIP 10uF 20% 16V
C15	1-135-072-21	s	TANTALUM CHIP 0.22uF 20% 35V
C18	1-135-149-21	s	TANTALUM CHIP 2.2uF 10% 10V
C19	1-163-251-11	s	CERAMIC 100PF 5% 50V
C20	1-135-072-21	s	TANTALUM CHIP 0.22uF 20% 35V
C21	1-135-145-11	s	TANTALUM CHIP 0.47uF 20% 25V
C23	1-135-216-11	s	TANTAL,10uF 20% 10V
C25	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
CN1	1-566-095-11	s	PIN, BOARD TO BOARD 10P
CN2	1-566-095-11	s	PIN, BOARD TO BOARD 10P
D4	8-719-104-34	s	DIODE 1S2836
D5	8-719-104-34	s	DIODE 1S2836
IC1	8-759-981-51	s	IC RC1496M
IC2	8-759-906-53	s	IC TL062CPS
Q1	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q2	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-122-63	s	TRANSISTOR 2SA1226
Q6	8-729-100-66	s	TRANSISTOR 2SC1623
Q7	8-729-216-22	s	TRANSISTOR 2SA1162
Q8	8-729-402-19	s	TRANSISTOR XN6501
Q9	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q11	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q14	8-729-122-63	s	TRANSISTOR 2SA1226
Q15	8-729-175-73	s	TRANSISTOR 2SC2757
Q17	8-729-216-22	s	TRANSISTOR 2SA1162
Q18	8-729-109-41	s	TRANSISTOR 2SK94-X1
R18	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R43	1-216-127-11	s	METAL, 1.8M 5% 1/10W

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
	1-542-112-11	s	MICROPHONE (C-2025)
	1-547-463-11	o	FILTER UNIT, OPTICAL
	1-574-145-11	s	WIRE, FLAT TYPE (30 CORE)
	1-590-168-11	s	WIRE, FLAT TYPE (16 CORE)
	1-942-381-12	s	HARNESS (LENS)
	1-946-627-11	o	HARNESS (RM)
	8-814-189-31	s	MICROPHONE, BUILT-IN (C-1007A)
CN101	1-562-782-21	s	RECEPTACLE, 10P, FEMALE "REMOTE"
	1-569-202-11	o	HOUSING, 9P
	1-569-193-11	o	CONTACT
	1-569-191-11	o	TERMINAL, SOLDERLESS
CN102	1-561-320-00	s	SOCKET, DIN 8P "VF"
CN104	1-562-222-41	s	CONNECTOR,6P,FEMALE
	1-562-151-11	o	HOUSING, 6P
	1-569-193-11	o	CONTACT
CN105	1-561-781-11	s	CONNECTOR, BNC, FEMALE
S102	1-553-972-00	o	TOGGLE "POWER"

CAMERA ADAPTOR

CA-327



SPECIFICATIONS

Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin DC IN: XLR-type, 4-pin MIC IN: XLR-type, 3-pin GEN LOCK IN: BNC-type EAR: mini jack INTERCOM: mini intercom jack S VIDEO OUT: mini DIN-type, 4-pin AUDIO OUT: phono jack
Power requirements	12 V DC
Power consumption	0.8 W
Operating temperature	–5°C to +45°C (23°F to 113°F)
Storage temperature	–20°C to +60°C (–4°F to +140°F)
Weight	1.2 kg (2 lb 10 oz)
Dimensions	118 × 205 × 187 mm ($4\,^3/_4 \times 8\,^1/_3 \times 7\,^3/_8$ inches)
Supplied accessories	Screws for attaching the CA-327/327P M4 × 6 (2) M4 × 12 (2) Operating instructions (1)

Design and specifications are subject to change without notice.

SONY®
SERVICE MANUAL

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Overall A-1

B. SEMICONDUCTOR

Semiconductor B-1

C. SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS

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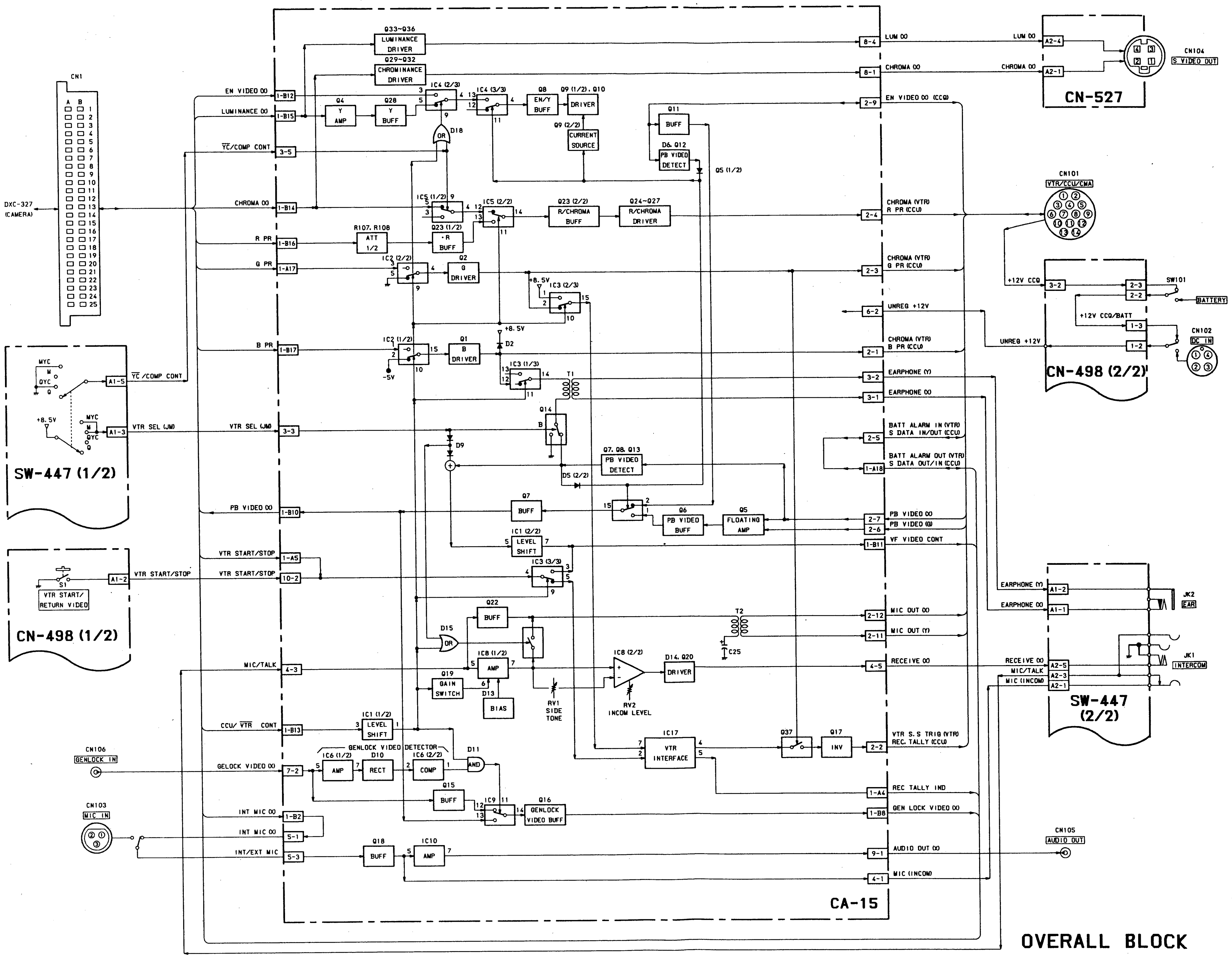
CN-498
CN-527
SW-447 ....C-4

D. SPARE PARTS

Parts Information D-1
Exploded View...D-3
Electrical Parts D-5

SECTION A
BLOCK DIAGRAM

OVERALL BLOCK


CN1
DXC-327 (CAMERA)
Q33~Q36 LUMINANCE DRIVER
Q29~Q32 CHROMINANCE DRIVER
EN VIDEO (X)
LUMINANCE (X)
YC/COMP CONT
CHROMA (X)
R PR
G PR
B PR
VTR SEL (JM)
PB VIDEO (X)
VTR START/STOP
MIC/TALK
CCU/ VTR CONT
GELOCK VIDEO (X)
INT MIC (X)
INT/EXT MIC
1-B12
1-B15
3-5
1-B14
1-B16
1-A17
1-B17
3-3
1-B10
1-A5
10-2
4-3
1-B13
7-2
1-B2
5-1
5-3
Q4 Y AMP
Q28 Y BUFF
IC4 (2/3)
IC4 (3/3)
Q8 EN/Y BUFF
Q9 (1/2), Q10 DRIVER
Q9 (2/2) CURRENT SOURCE
D18 OR
Q11 BUFF
D6, Q12 PB VIDEO DETECT
Q5 (1/2)
IC5 (1/2)
IC5 (2/2)
Q23 (2/2) R/CHROMA BUFF
Q24~Q27 R/CHROMA DRIVER
R107, R108 ATT 1/2
Q23 (1/2) ·R BUFF
IC2 (2/2)
Q2 G DRIVER
+8.5V
IC3 (2/3)
IC2 (1/2)
Q1 B DRIVER
-5V
D2
IC3 (1/3)
T1
Q14
D9
Q7, Q8, Q13 PB VIDEO DETECT
D5 (2/2)
Q7 BUFF
Q6 PB VIDEO BUFF
Q5 FLOATING AMP
IC1 (2/2) LEVEL SHIFT
IC3 (3/3)
Q22 BUFF
D15 OR
IC8 (1/2) AMP
Q19 GAIN SWITCH
D13
BIAS
RV1 SIDE TONE
IC8 (2/2)
RV2 INCOM LEVEL
D14, Q20 DRIVER
T2
C25
IC1 (1/2) LEVEL SHIFT
GENLOCK VIDEO DETECTOR
IC6 (1/2) AMP
D10 RECT
IC6 (2/2) COMP
D11 AND
Q15 BUFF
IC9
Q16 GENLOCK VIDEO BUFF
IC17 VTR INTERFACE
Q37
Q17 INV
Q18 BUFF
IC10 AMP
8-4 LUM (X)
8-1 CHROMA (X)
2-9 EN VIDEO (X) (CCQ)
2-4 CHROMA (VTR) R PR (CCU)
2-3 CHROMA (VTR) G PR (CCU)
6-2 UNREG +12V
2-1 CHROMA (VTR) B PR (CCU)
3-2 EARPHONE (Y)
3-1 EARPHONE (X)
2-5 BATT ALARM IN (VTR) S DATA IN/OUT (CCU)
1-A18 BATT ALARM OUT (VTR) S DATA OUT/IN (CCU)
2-7 PB VIDEO (X)
2-6 PB VIDEO (G)
1-B11 VF VIDEO CONT
2-12 MIC OUT (X)
2-11 MIC OUT (Y)
4-5 RECEIVE (X)
2-2 VTR S.S TRIG (VTR) REC. TALLY (CCU)
1-A4 REC TALLY IND
1-B8 GEN LOCK VIDEO (X)
9-1 AUDIO OUT (X)
4-1 MIC (INCOM)
CA-15
LUM (X)
CHROMA (X)
A2-4
A2-1
CN104 S VIDEO OUT
CN-527
CN101 VTR/CCU/CMA
+12V CCQ
3-2
2-3
2-2
SW101
BATTERY
+12V CCQ/BATT
1-3
1-2
UNREG +12V
CN102 DC IN
CN-498 (2/2)
EARPHONE (Y)
EARPHONE (X)
A1-2
A1-1
JK2 EAR
RECEIVE (X)
MIC/TALK
MIC (INCOM)
A2-5
A2-3
A2-1
JK1 INTERCOM
SW-447 (2/2)
CN105 AUDIO OUT
MYC
M
QYC
Q
+8.5V
A1-5
A1-3
SW-447 (1/2)
S1
VTR START/RETURN VIDEO
A1-2
CN-498 (1/2)
CN106 GENLOCK IN
CN103 MIC IN

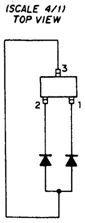
OVERALL BLOCK

SECTION B
SEMICONDUCTOR

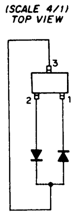
The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

TYPE	PAGE
1S2836	B-1
1SS226	B-1
2SA1162	B-1
2SC1623	B-1
2SC2878	B-1
2SK94	B-1
CX518	B-2
LM2903M	B-2
MA152WK	B-1
MC14053BF	B-2
RC2043MD	B-2
RC4560M	B-2
RD ? ?M-B ?	B-1
SB05-05CP	B-1
uPC4558G2	B-2
XN4608	B-1
XN6401	B-1
XN6501	B-1
XN6534	B-1

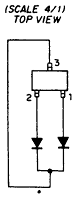
DIODE, TRANSISTOR


(SCALE 4/1)
TOP VIEW
3
2
1

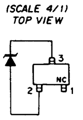
1S2836


(SCALE 4/1)
TOP VIEW
3
2
1

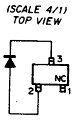
1SS226


(SCALE 4/1)
TOP VIEW
3
2
1

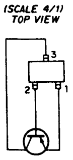
MA152WK


(SCALE 4/1)
TOP VIEW
3
NC
2
1

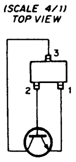
RD ? ?M-B ?


(SCALE 4/1)
TOP VIEW
3
NC
2
1

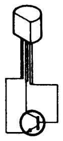
SB05-05CP


(SCALE 4/1)
TOP VIEW
3
2
1

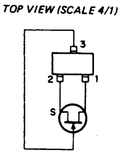
2SA1162


(SCALE 4/1)
TOP VIEW
3
2
1

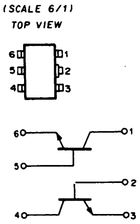
2SC1623



2SC2878


TOP VIEW (SCALE 4/1)
3
2
1
S

2SK94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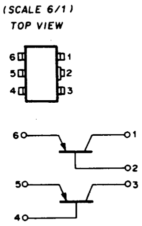
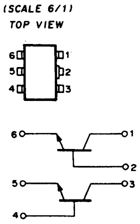
TOP VIEW
6
5
4
1
2
3

XN4608


(SCALE 6/1)
TOP VIEW
6
5
4
1
2
3

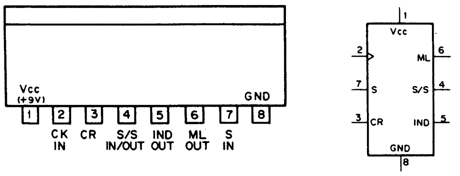
XN6401

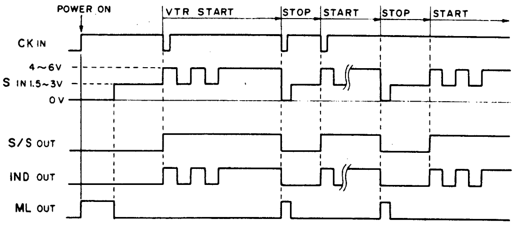

(SCALE 6/1)
TOP VIEW
6
5
4
1
2
3

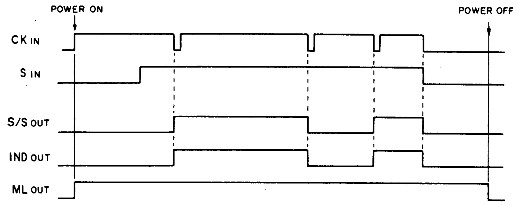
XN6501
XN6534

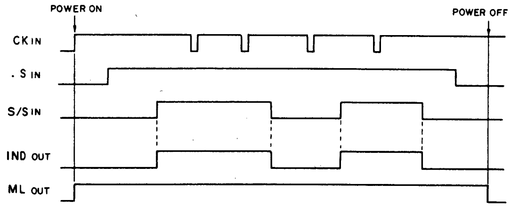
CX518 (SONY)

INTERFACE CIRCUIT BETWEEN VTR AND CAMERA
– SIDE VIEW –


Vcc
(+9V)
GND
1
2
3
4
5
6
7
8
CK IN
CR
S/S IN/OUT
IND OUT
ML OUT
S IN
Vcc
ML
S/S
IND
S
CR
GND

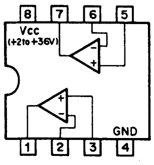

POWER ON
VTR START
STOP
START
STOP
START
CK IN
4~6V
S IN 1.5~3V
0V
S/S OUT
IND OUT
ML OUT


POWER ON
POWER OFF
CK IN
S IN
S/S OUT
IND OUT
ML OUT


POWER ON
POWER OFF
CK IN
S IN
S/S IN
IND OUT
ML OUT

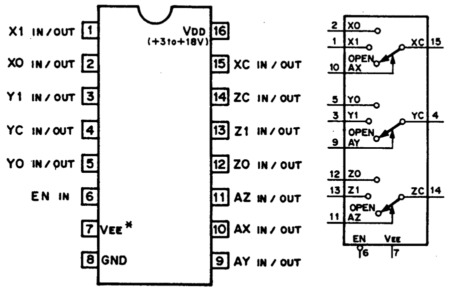
LM2903M (RAYTHEON) FLAT PACKAGE

DUAL VOLTAGE COMPARATORS
– TOP VIEW –


8
7
6
5
Vcc
(+2to+36V)
GND
1
2
3
4

MC14053BF (MOTOROLA) FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –


X1 IN/OUT 1
X0 IN/OUT 2
Y1 IN/OUT 3
YC IN/OUT 4
Y0 IN/OUT 5
EN IN 6
7 VEE*
8 GND
VDD 16
(+3to+18V)
15 XC IN/OUT
14 ZC IN/OUT
13 Z1 IN/OUT
12 Z0 IN/OUT
11 AZ IN/OUT
10 AX IN/OUT
9 AY IN/OUT
X0
X1
OPEN
AX
XC
Y0
Y1
OPEN
AY
YC
Z0
Z1
OPEN
AZ
ZC
EN
VEE

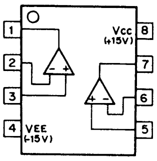
VEE*; VDD−VEE = +3 to+18V

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

CONT. INPUTS		ON CHANNEL
EN	A (X,Y,Z,)	
0	0	0
0	1	1
1	X	OPEN

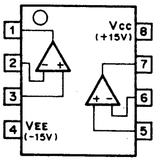
RC2043MD (RAYTHEON) FLAT PACKAGE

OPERATIONAL AMPLIFIER
– TOP VIEW –


1
2
3
4
VEE
(-15V)
Vcc
(+15V)
8
7
6
5

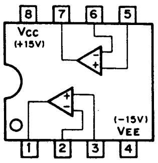
RC4560M (RAYTHEON) FLAT PACKAGE

OPERATIONAL AMPLIFIER
– TOP VIEW –

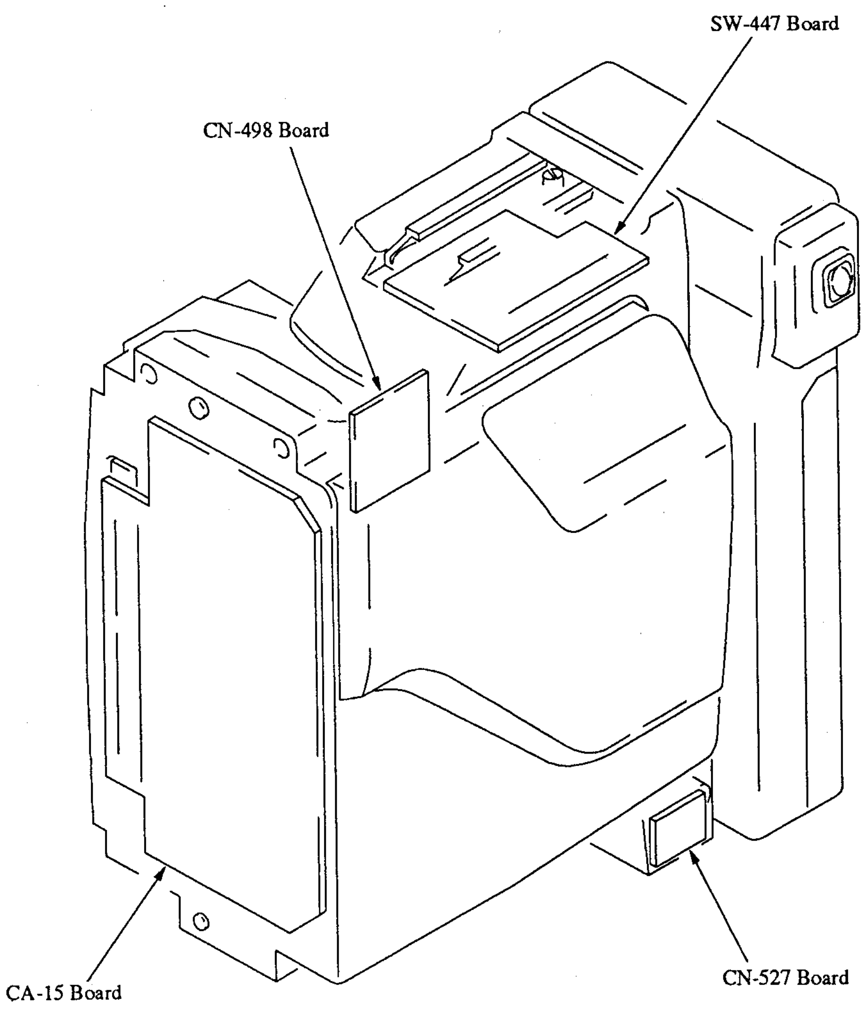

1
2
3
4
VEE
(-15V)
Vcc
(+15V)
8
7
6
5

uPC4558G2 (NEC) FLAT PACKAGE

OPERATIONAL AMPLIFIER
– TOP VIEW –


8
7
6
5
Vcc
(+15V)
(-15V)
VEE
1
2
3
4

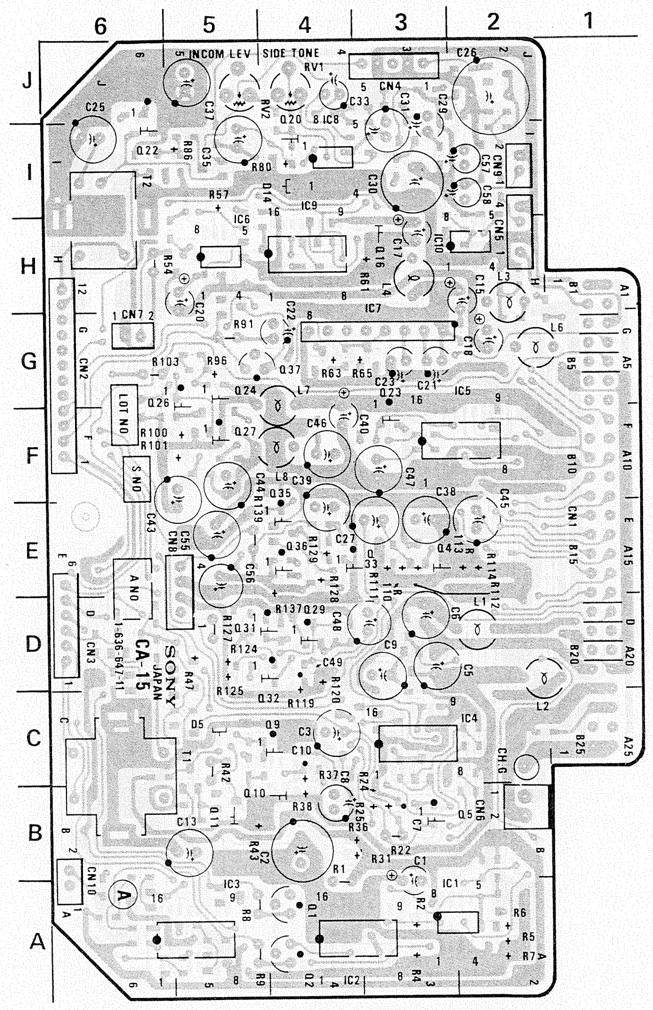
SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS


SW-447 Board
CN-498 Board
CA-15 Board
CN-527 Board

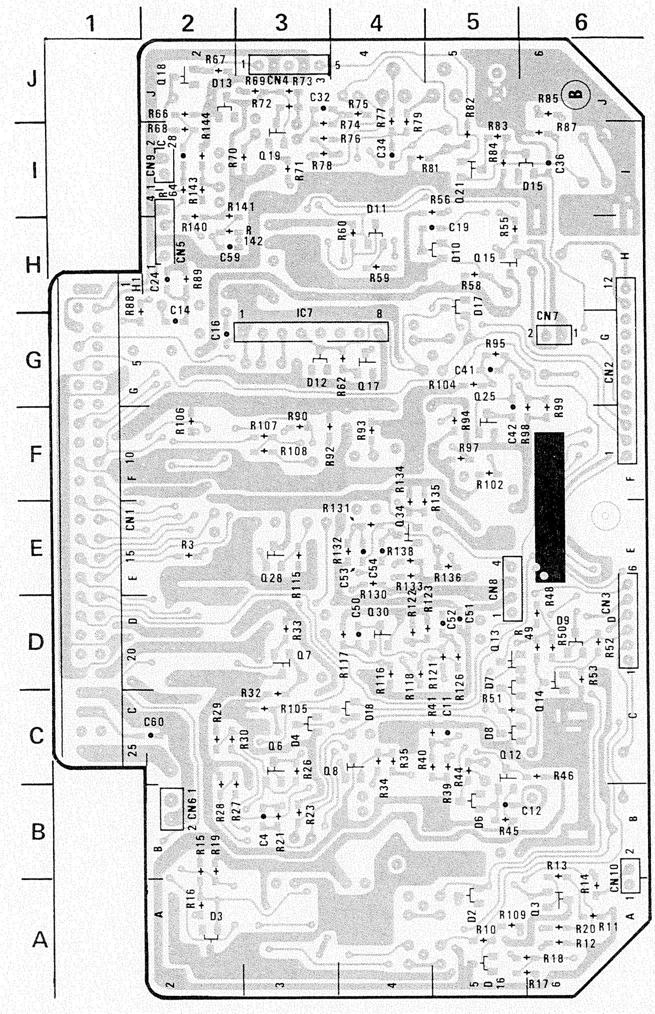
CA-15 BOARD

CA-15 (1-636-647-11)

CN1	E-1
CN2	G-6
CN3	D-6
CN4	J-3
CN5	H-2
CN6	B-2
CN7	G-6
CN8	E-5
CN9	I-2
CN10	A-6
D2	A-5
D3	A-2
D4	C-3
D5	C-5
D6	B-5
D7	D-5
D8	C-5
D9	D-6
D10	H-5
D11	I-4
D12	G-3
D13	J-2
D14	I-4
D15	I-6
D16	A-5
D17	H-5
D18	C-4
IC1	A-3
IC2	A-4
IC3	A-5
IC4	C-2
IC5	G-2
IC6	H-5
IC7	G-3
IC8	J-4
IC9	I-4
IC10	H-3
Q1	A-4
Q2	A-4
Q3	A-6
Q4	E-3
Q5	B-2
Q6	C-3
Q7	D-3
Q8	C-3
Q9	C-4
Q10	B-5
Q11	B-5
Q12	C-5
Q13	D-5
Q14	C-6
Q15	H-5
Q16	H-3
Q17	G-4
Q18	J-2
Q19	I-3
Q20	J-4
Q21	I-5
Q22	I-6
Q23	G-3
Q24	G-5
Q25	G-5
Q26	G-6
Q27	F-5
Q28	E-3
Q29	D-4
Q30	D-4
Q31	D-5
Q32	C-4
Q33	E-3
Q34	E-4
Q35	F-4
Q36	E-4
Q37	G-4
RV1	J-4
RV2	J-4
T1	C-5
T2	I-6



1-636-647-11 COMPONENT SIDE

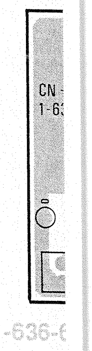


1-636-647-11 SOLDERING SIDE

CA-15 (1-636-647-11)

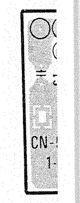
CN1	E-1
CN2	G-6
CN3	D-6
CN4	J-3
CN5	H-2
CN6	B-2
CN7	G-6
CN8	E-5
CN9	I-2
CN10	A-6
D2	A-5
D3	A-2
D4	C-3
D5	C-5
D6	B-5
D7	D-5
D8	C-5
D9	D-6
D10	H-5
D11	I-4
D12	G-3
D13	J-2
D14	I-4
D15	I-6
D16	A-5
D17	H-5
D18	C-4
IC1	A-3
IC2	A-4
IC3	A-5
IC4	C-2
IC5	G-2
IC6	H-5
IC7	G-3
IC8	J-4
IC9	I-4
IC10	H-3
Q1	A-4
Q2	A-4
Q3	A-6
Q4	E-3
Q5	B-2
Q6	C-3
Q7	D-3
Q8	C-3
Q9	C-4
Q10	B-5
Q11	B-5
Q12	C-5
Q13	D-5
Q14	C-6
Q15	H-5
Q16	H-3
Q17	G-4
Q18	J-2
Q19	I-3
Q20	J-4
Q21	I-5
Q22	I-6
Q23	G-3
Q24	G-5
Q25	G-5
Q26	G-6
Q27	F-5
Q28	E-3
Q29	D-4
Q30	D-4
Q31	D-5
Q32	C-4
Q33	E-3
Q34	E-4
Q35	F-4
Q36	E-4
Q37	G-4
RV1	J-4
RV2	J-4
T1	C-5
T2	I-6

CN-49



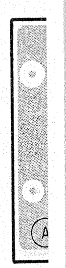
1-636-(

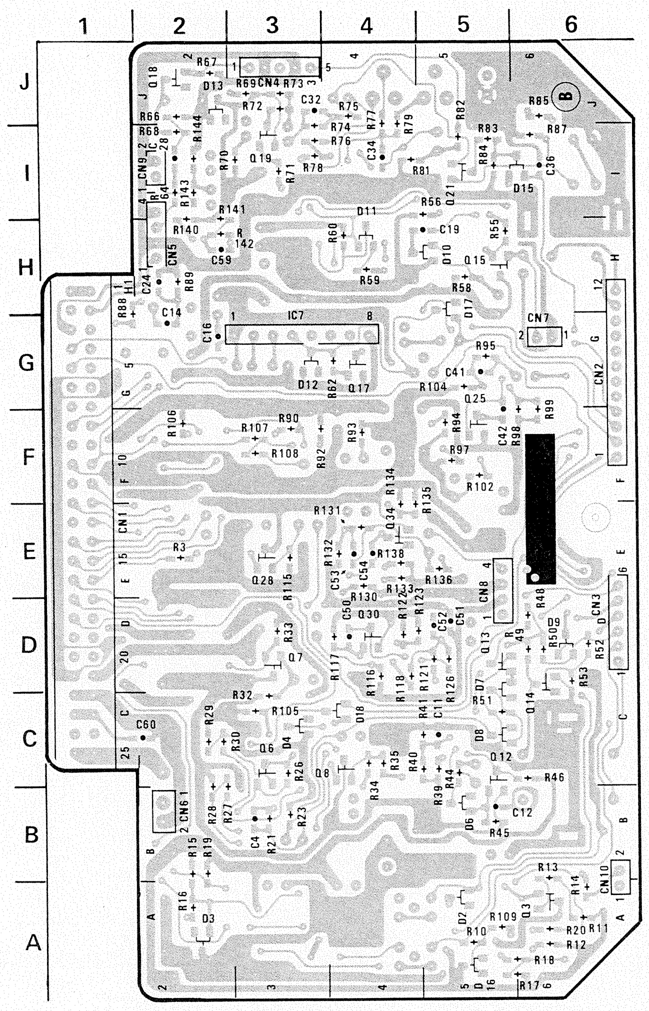
CN-52



1-636-740-

SW-44



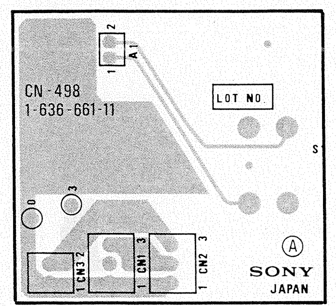

1
2
3
4
5
6
J
I
H
G
F
E
D
C
B
A
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
CN10
IC7
Q25
Q26
Q30
Q12

1-636-647-11 SOLDERING SIDE

CA-15 (1-636-647-11)

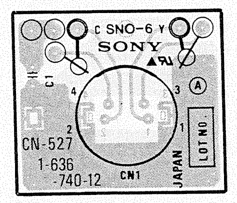
CN1	E-1
CN2	G-6
CN3	D-6
CN4	J-3
CN5	H-2
CN6	B-2
CN7	G-6
CN8	E-5
CN9	I-2
CN10	A-6
D2	A-5
D3	A-2
D4	C-3
D5	C-5
D6	B-5
D7	D-5
D8	C-5
D9	D-6
D10	H-5
D11	I-4
D12	G-3
D13	J-2
D14	I-4
D15	I-6
D16	A-5
D17	H-5
D18	C-4
IC1	A-3
IC2	A-4
IC3	A-5
IC4	C-2
IC5	G-2
IC6	H-5
IC7	G-3
IC8	J-4
IC9	I-4
IC10	H-3
Q1	A-4
Q2	A-4
Q3	A-6
Q4	E-3
Q5	B-2
Q6	C-3
Q7	D-3
Q8	C-3
Q9	C-4
Q10	B-5
Q11	B-5
Q12	C-5
Q13	D-5
Q14	C-6
Q15	H-5
Q16	H-3
Q17	G-4
Q18	J-2
Q19	I-3
Q20	J-4
Q21	I-5
Q22	I-6
Q23	G-3
Q24	G-5
Q25	G-5
Q26	G-6
Q27	F-5
Q28	E-3
Q29	D-4
Q30	D-4
Q31	D-5
Q32	C-4
Q33	E-3
Q34	E-4
Q35	F-4
Q36	E-4
Q37	G-4
RV1	J-4
RV2	J-4
T1	C-5
T2	I-6

CN-498 BOARD


CN-498
1-636-661-11
LOT NO
CN1
CN2
CN3
SONY
JAPAN
Ⓐ

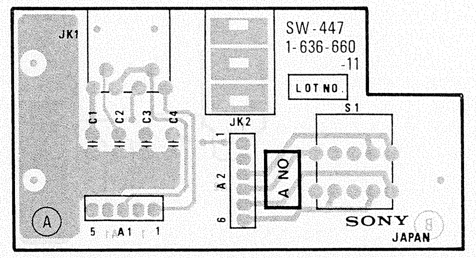
1-636-661-11 COMPONENT SIDE

CN-527 BOARD


SNO-6 Y
SONY
C1
CN-527
1-636
-740-12
CN1
JAPAN
LOT NO
Ⓐ

1-636-740-12 COMPONENT SIDE

SW-447 BOARD


JK1
SW-447
1-636-660
-11
LOT NO
S1
JK2
C1
C2
C3
C4
A2
A1
A NO
SONY
JAPAN
Ⓐ

1-636-660-11 COMPONENT SIDE

CA-15 BOARD

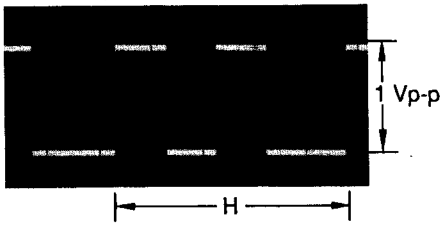
注意:

1. DC電圧はデジタル電圧計による値。
2. 波形写真、及びDC電圧は下記条件での測定。
   - グレースケールチャートを撮像し、波形モニターにて、ビデオ出力の白レベルが100 IREになる様にレンズ絞りをセットする。
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : ON

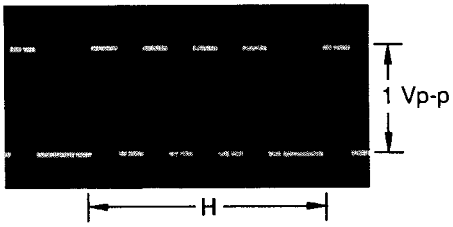
NOTE:

1. All voltage are DC, measured with a digital voltmeter.
2. All waveforms are taken and DC voltage is measured in condition below.
   - Shoot the grayscale chart. Adjust lens iris so that a white level is 100 IRE on the waveform monitor.
   - GAIN : 0 dB
   - WHITE BAL : PRE
   - ABL : OFF
   - SHUTTER : OFF
   - ZEBRA : OFF
   - VF MARKER : OFF
   - PHASE : 0°
   - BARS : ON

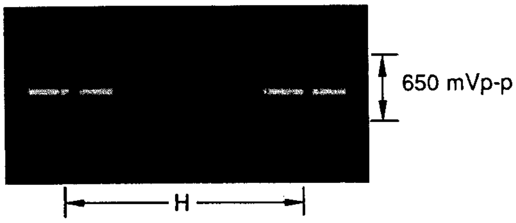
CN1-B16 pin



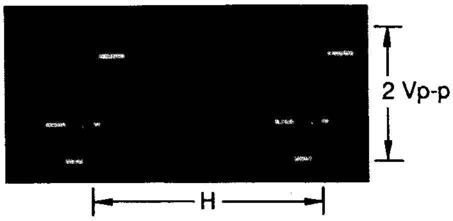
CN1-B17 pin



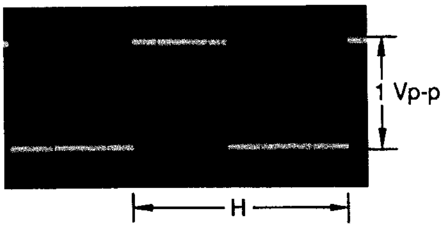
CN1-B14 pin



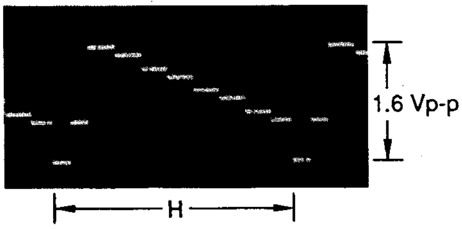
CN1-B12 pin



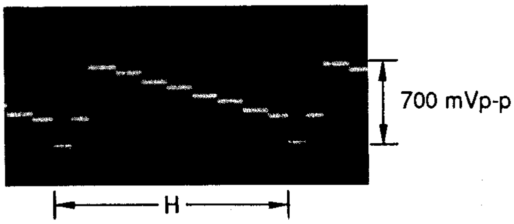
CN1-A17 pin



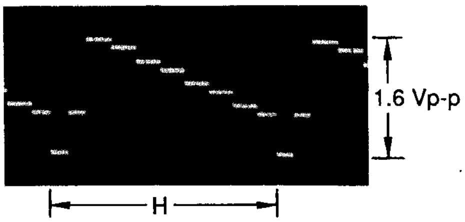
CN2-9 pin



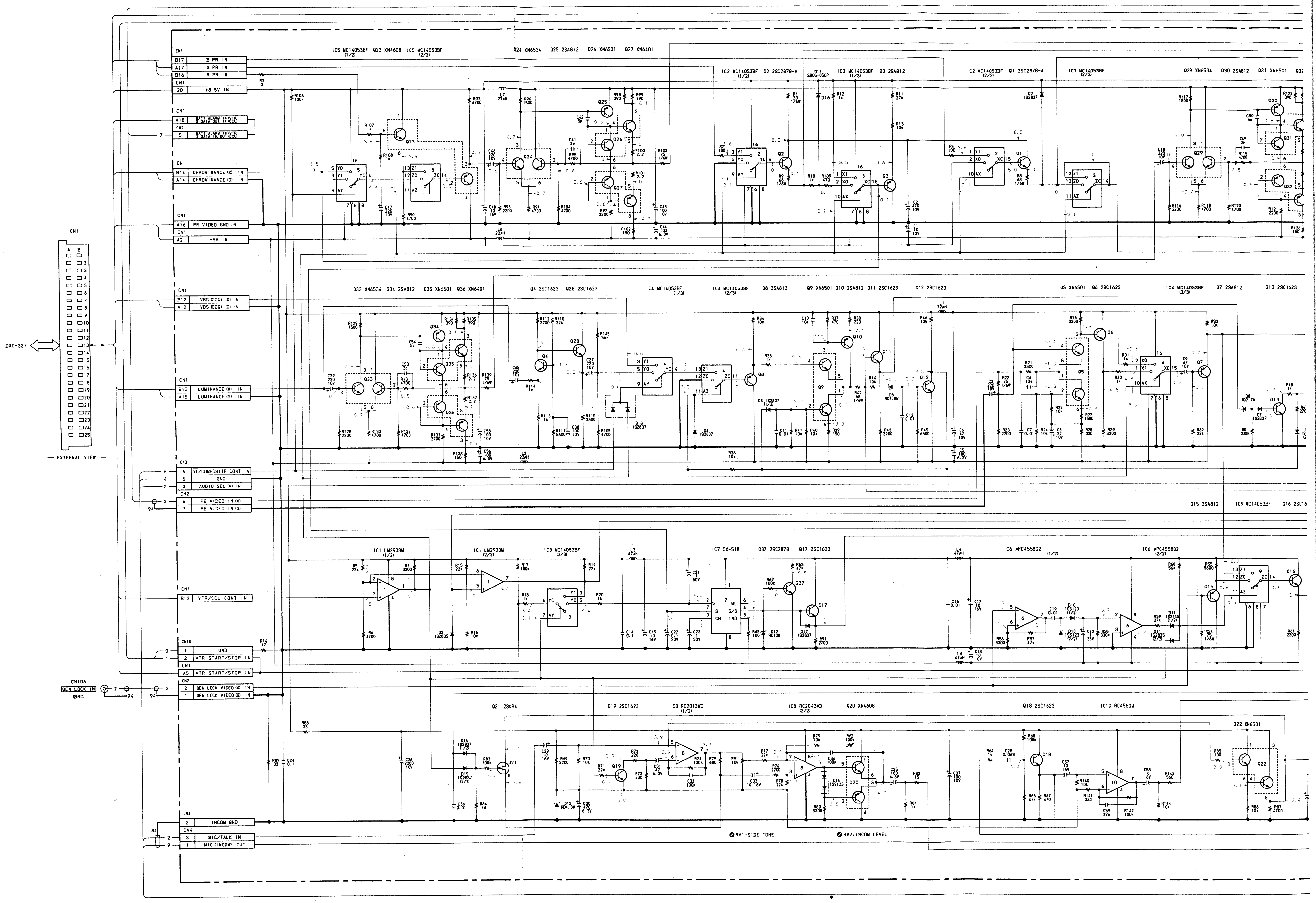
CN1-B15 pin



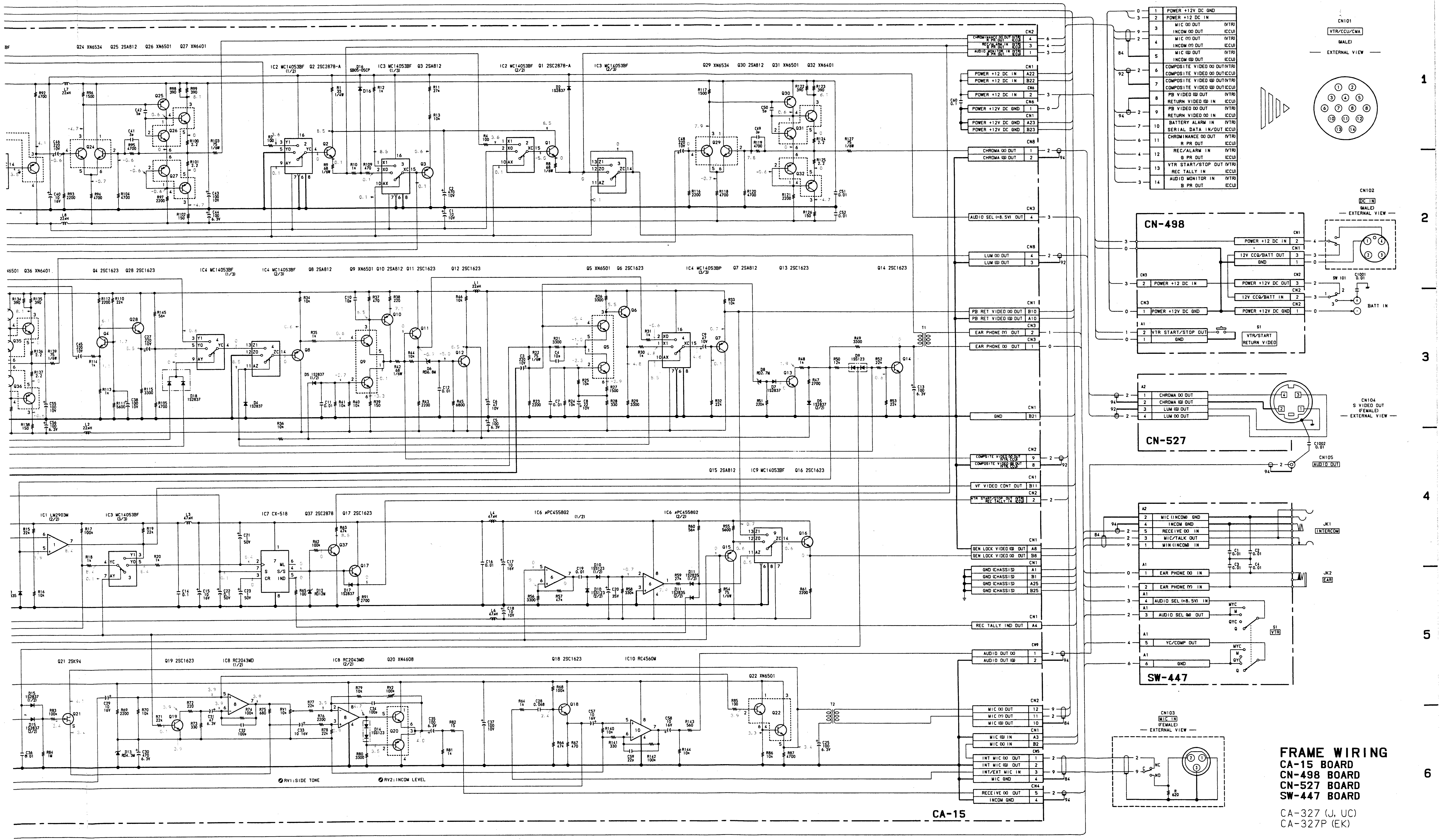
Q28-emitter



CA-15 BOARD
CN-498 BOARD
CN-527 BOARD
SW-447 BOARD


CN1
B17 B PR IN
A17 G PR IN
B16 R PR IN
20 +8.5V IN
A18 BATT ALARM IN (CTR) S DATA OUT IN (CCU)
5 BATT ALARM IN (CTR) S DATA IN OUT (CCU)
B14 CHROMINANCE (X) IN
A14 CHROMINANCE (G) IN
A16 PR VIDEO GND IN
A21 -5V IN
B12 VBS (CCG) (X) IN
A12 VBS (CCG) (G) IN
B15 LUMINANCE (X) IN
A15 LUMINANCE (G) IN
CN3
6 YC/COMPOSITE CONT IN
5 GND
3 AUDIO SEL (M) IN
CN2
6 PB VIDEO IN (X)
7 PB VIDEO IN (G)
B13 VTR/CCU CONT IN
CN10
1 GND
2 VTR START/STOP IN
A5 VTR START/STOP IN
CN7
2 GEN LOCK VIDEO (X) IN
1 GEN LOCK VIDEO (G) IN
CN106 GEN LOCK IN (BNC)
CN4
2 INCOM GND
3 MIC/TALK IN
1 MIC (INCOM) OUT
DXC-327
EXTERNAL VIEW
IC5 MC14053BF
Q23 XN4608
Q24 XN6534 Q25 2SA812 Q26 XN6501 Q27 XN6401
IC2 MC14053BF Q2 2SC2878-A
IC3 MC14053BF Q3 2SA812
IC2 MC14053BF Q1 2SC2878-A
Q29 XN6534 Q30 2SA812 Q31 XN6501
Q33 XN6534 Q34 2SA812 Q35 XN6501 Q36 XN6401
Q4 2SC1623 Q28 2SC1623
IC4 MC14053BF
Q8 2SA812
Q9 XN6501 Q10 2SA812 Q11 2SC1623
Q12 2SC1623
Q5 XN6501 Q6 2SC1623
Q7 2SA812
Q13 2SC1623
IC1 LM2903M
IC3 MC14053BF
IC7 CX-518
Q37 2SC2878 Q17 2SC1623
IC6 µPC4558G2
Q15 2SA812 IC9 MC14053BF Q16
Q21 2SK94
Q19 2SC1623
IC8 RC2043MD
Q20 XN4608
Q18 2SC1623
IC10 RC4560M
Q22 XN6501
RV1: SIDE TONE
RV2: INCOM LEVEL

A | B | C | D | E | F | G


CA-15
CN-498
CN-527
SW-447
CN101
VTR/CCU/CMA
(MALE)
EXTERNAL VIEW
CN102
DC IN
(MALE)
EXTERNAL VIEW
BATT IN
SW 101
CN104
S VIDEO OUT
(FEMALE)
EXTERNAL VIEW
CN105
AUDIO OUT
JK1
INTERCOM
JK2
EAR
CN103
MIC IN
(FEMALE)
EXTERNAL VIEW
S1
VTR/START
RETURN VIDEO
YC/COMP OUT
GND
ⓇRV1:SIDE TONE
ⓇRV2:INCOM LEVEL
POWER +12V DC GND
POWER +12V DC IN
MIC (X) OUT
INCOM (X) OUT
MIC (Y) OUT
INCOM (Y) OUT
MIC (G) OUT
INCOM (G) OUT
COMPOSITE VIDEO (X) OUT
COMPOSITE VIDEO (G) OUT
PB VIDEO (G) OUT
RETURN VIDEO (G) IN
PB VIDEO (X) OUT
RETURN VIDEO (X) IN
BATTERY ALARM IN
SERIAL DATA IN/OUT
CHROMINANCE (X) OUT
R PR OUT
REC/ALARM IN
B PR OUT
VTR START/STOP OUT
REC TALLY IN
AUDIO MONITOR IN
B PR OUT
CHROMA (X) OUT
CHROMA (G) OUT
AUDIO SEL (+8.5V) OUT
LUM (X) OUT
LUM (G) OUT
PB RET VIDEO (X) OUT
PB RET VIDEO (G) OUT
EAR PHONE (Y) OUT
EAR PHONE (X) OUT
GND
VF VIDEO CONT OUT
GEN LOCK VIDEO (G) OUT
GEN LOCK VIDEO (X) OUT
GND (CHASSIS)
REC TALLY IND OUT
AUDIO OUT (X)
AUDIO OUT (G)
MIC (X) OUT
MIC (Y) OUT
MIC (G) OUT
MIC (G) IN
MIC (X) IN
INT MIC (X) OUT
INT MIC (G) OUT
INT/EXT MIC IN
MIC GND
RECEIVE (X) OUT
INCOM GND
POWER +12V DC IN
12V CCQ/BATT OUT
12V CCQ/BATT IN
POWER +12V DC OUT
POWER +12V DC GND
VTR START/STOP OUT
MIC (INCOM) GND
INCOM GND
RECEIVE (X) IN
MIC/TALK (X) OUT
MIN (INCOM) IN
EAR PHONE (X) IN
EAR PHONE (Y) IN
AUDIO SEL (+8.5V) IN
AUDIO SEL (G) OUT
IC1 LM2903M
IC2 MC14053BF
IC3 MC14053BF
IC4 MC14053BF
IC6 μPC4558G2
IC7 CX-518
IC8 RC2043MD
IC9 MC14053BF
IC10 RC4560M
Q21 2SK94
Q24 XN6534
Q25 2SA812
Q26 XN6501
Q27 XN6401
Q29 XN6534
Q30 2SA812
Q31 XN6501
Q32 XN6401
1
2
3
4
5
6

FRAME WIRING
CA-15 BOARD
CN-498 BOARD
CN-527 BOARD
SW-447 BOARD

CA-327 (J, UC)
CA-327P (EK)

SECTION D
SPARE PARTS

PARTS INFORMATION

1. **Safety Related Component Warning**

   Components indentified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

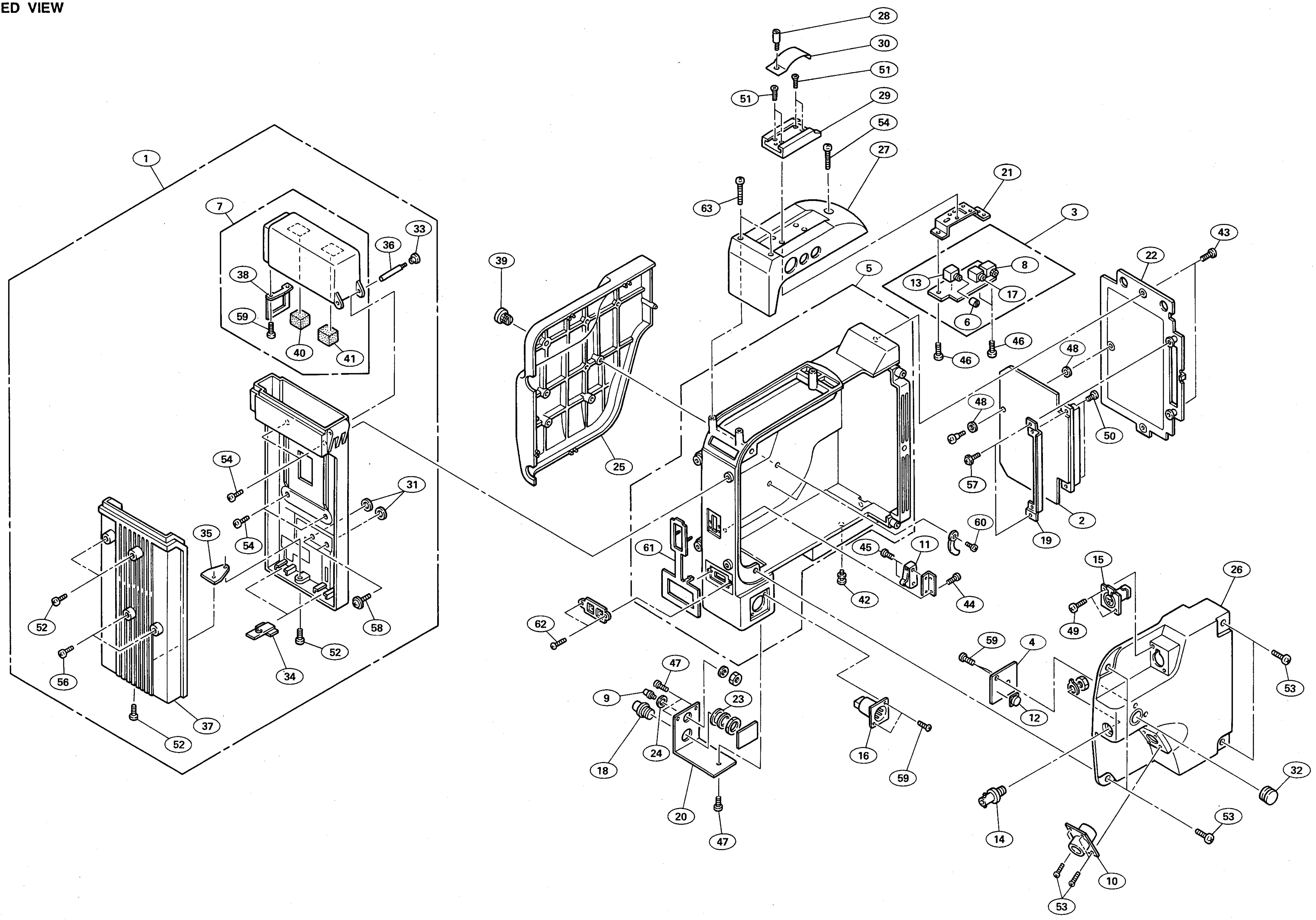
2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."** This manual 's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer to SONY service bulletins and service manual supplements.

3. The parts marked with "S" in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

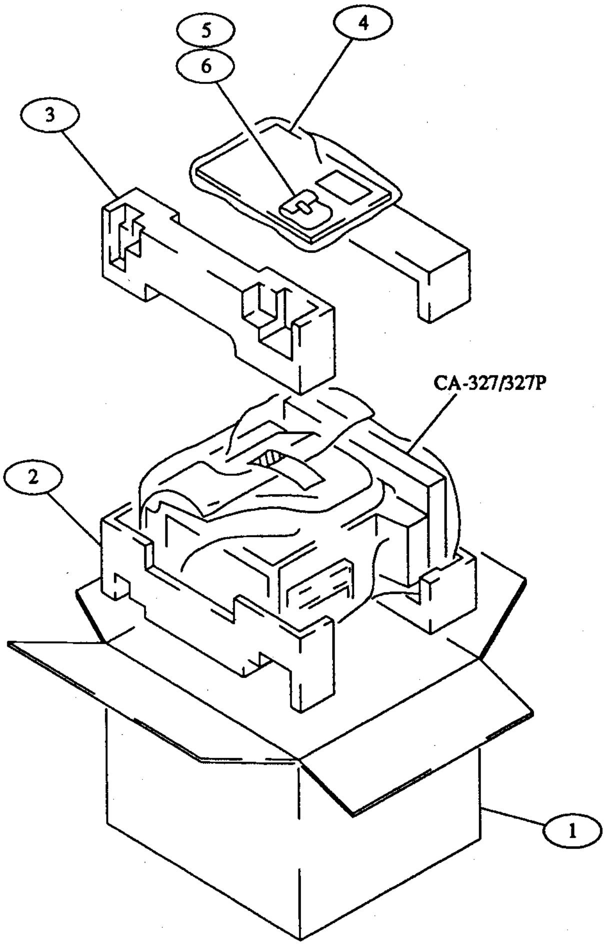
5. All capacitors are in micro farads unless otherwise specified.
   All inductors are in micro henries unless otherwise specified.
   All resistors are in ohms.

EXPLODED VIEW


28
30
51
51
29
54
27
21
63
3
43
1
7
33
36
22
39
5
8
13
17
38
59
6
46
46
48
40
41
48
50
54
31
25
57
35
60
54
19
2
61
11
45
15
26
42
44
52
62
58
49
52
59
4
47
34
53
9
23
12
56
37
16
32
18
24
52
59
53
20
14
47
10
53

No.	Part No.	SP	Description
1	A-6703-651-C	s	CASE ASSY, BATTERY
2	A-7515-231-A	o	MOUNTED CIRCUIT BOARD, CA-15
3	A-7520-518-A	o	MOUNTED CIRCUIT BOARD, SW-447
4	A-7520-519-A	o	MOUNTED CIRCUIT BOARD, CN-498
5	X-3165-587-1	o	CHASSIS ASSY, CA
6	X-3664-208-0	s	KNOB ASSY, FADE
7	X-3717-701-3	o	COVER ASSY, TOP, BATTERY
8	1-507-883-11	s	JACK, SMALL TYPE, 4P "INTER COM"
9	1-507-918-00	o	JACK, PIN 1P "AUDIO OUT"
10	1-508-942-12	s	CONNECTOR, 14P MALE "VTR/CCU/CMA"
11	1-552-665-00	s	SWITCH, MICRO
12	1-553-739-21	s	SWITCH, KEY BOARD
13	1-554-955-11	s	SWITCH, ROTARY "VTR"
14	1-561-781-11	s	CONNECTOR, BNC "GENLOCK IN"
15	1-563-096-11	s	CONNECTOR (WITH SW), 3P FEMALE "MIC IN"
16	1-564-603-11	s	CONNECTOR (WITH DC SW), 4P MALE "DC IN"
17	1-566-740-11	s	JACK "EAR"
18	1-568-699-11	s	SOCKET, MINIATURE 4P "S VIDEO OUT"
19	3-166-318-01	o	BRACKET, CONNECTOR
20	3-166-319-01	o	PLATE (A), BOTTOM
21	3-166-329-01	o	BRACKET, PC BOARD
22	3-166-330-01	o	PANEL, CONNECTOR
23	3-167-448-01	o	PLATE, GROUND
24	3-167-449-01	o	INSULATOR (1)
25	3-167-450-01	o	PAD, SIDE
26	3-168-373-01	o	COVER, SIDE
27	3-168-436-01	o	COVER, TOP
28	3-664-213-00	o	SCREW, STOPPER
29	3-664-218-00	o	SHOE
30	3-664-228-00	o	PLATE, SPRING
31	3-669-596-00	s	WASHER (2.3), STOPPER
32	3-672-221-02	s	PACKING, CONTROL
33	3-703-075-00	s	CAP 2, SHAFT
34	3-717-707-02	o	CUSHION (2)
35	3-717-708-01	o	RETAINER, CASE
36	3-717-709-01	o	SHAFT, LID
37	3-718-040-01	o	COVER (1), BATTERY CASE
38	3-718-172-01	o	RETAINER, HOOK
39	3-725-907-01	s	BUSHING, BLIND
40	3-729-720-01	o	CUSHION (LEFT)
41	3-729-721-01	o	CUSHION (RIGHT)
42	3-744-355-01	o	SHAFT, GUIDE
43	7-621-770-67	s	SCREW +B 2.6X6
44	7-621-772-18	s	SCREW +B 2X4
45	7-621-772-48	s	SCREW +B 2X8
46	7-621-773-86	s	SCREW +B 2.6X4
47	7-621-775-10	s	SCREW +B 2.6X4
48	7-623-925-11	s	WASHER 4.0, NYLONE
49	7-627-556-77	s	SCREW, PRECISION +P2.6X6 TYPE 1
50	7-628-254-20	s	SCREW +PS 2.6X8
51	7-682-248-04	s	SCREW +K 3X8
52	7-682-546-09	s	SCREW +B 3X5
53	7-682-548-04	s	SCREW +B 3X8
54	7-682-548-09	s	SCREW +B 3X8
55	7-682-553-09	s	SCREW +B 3X20
56	7-682-559-09	s	SCREW +B 4X5
57	7-682-947-01	s	SCREW +PSW 3X6
58	7-682-948-01	s	SCREW +PSW 3X8
59	7-685-133-19	s	SCREW +P 2.6X6 TYPE1
60	7-685-649-79	s	SCREW +BTP 3X14 TYPE2 N-S
61	3-168-435-01	o	PACKING, DROP PROTECTION
62	7-621-772-30	s	SCREW +B 2X6
63	7-682-553-09	s	SCREW +B 3X12

No.	Part No.	SP	DESCRIPTION
1	3-167-618-01	o	CARTON, INDIVIDUAL(UC)
	3-167-620-01	o	CARTON, INDIVIDUAL(EK)1
2	3-167-622-01	o	CUSHION(LOWER)
3	3-167-623-01	o	CUSHION(UPPER)
4	3-752-392-11	s	MANUAL, INSTRUCTION
5	7-682-560-09	s	SCREW +B4x6
6	7-682-563-09	s	SCREW +B4x12



RESISTOR, CHIP

Part No.	SP	Description
1-216-295-00	s	RES, CHIP 0 5% 1/10W
1-216-298-00	s	RES, CHIP 2.2 5% 1/10W
1-216-302-00	s	RES, CHIP 2.7 5% 1/10W
1-216-304-11	s	RES, CHIP 3.3 5% 1/10W
1-216-306-11	s	RES, CHIP 3.9 5% 1/10W
1-216-308-00	s	RES, CHIP 4.7 5% 1/10W
1-216-309-00	s	RES, CHIP 5.6 5% 1/10W
1-216-311-00	s	RES, CHIP 6.8 5% 1/10W
1-216-313-00	s	RES, CHIP 8.2 5% 1/10W
1-216-001-00	s	RES, CHIP 10 5% 1/10W
1-216-003-11	s	RES, CHIP 12 5% 1/10W
1-216-005-00	s	RES, CHIP 15 5% 1/10W
1-216-007-00	s	RES, CHIP 18 5% 1/10W
1-216-009-00	s	RES, CHIP 22 5% 1/10W
1-216-011-00	s	RES, CHIP 27 5% 1/10W
1-216-013-00	s	RES, CHIP 33 5% 1/10W
1-216-015-00	s	RES, CHIP 39 5% 1/10W
1-216-017-00	s	RES, CHIP 47 5% 1/10W
1-216-019-00	s	RES, CHIP 56 5% 1/10W
1-216-021-00	s	RES, CHIP 68 5% 1/10W
1-216-023-00	s	RES, CHIP 82 5% 1/10W
1-216-025-00	s	RES, CHIP 100 5% 1/10W
1-216-027-00	s	RES, CHIP 120 5% 1/10W
1-216-029-00	s	RES, CHIP 150 5% 1/10W
1-216-031-00	s	RES, CHIP 180 5% 1/10W
1-216-033-00	s	RES, CHIP 220 5% 1/10W
1-216-035-00	s	RES, CHIP 270 5% 1/10W
1-216-037-00	s	RES, CHIP 330 5% 1/10W
1-216-039-00	s	RES, CHIP 390 5% 1/10W
1-216-041-00	s	RES, CHIP 470 5% 1/10W
1-216-043-00	s	RES, CHIP 560 5% 1/10W
1-216-045-00	s	RES, CHIP 680 5% 1/10W
1-216-047-00	s	RES, CHIP 820 5% 1/10W
1-216-049-00	s	RES, CHIP 1k 5% 1/10W
1-216-051-00	s	RES, CHIP 1.2k 5% 1/10W
1-216-053-00	s	RES, CHIP 1.5k 5% 1/10W
1-216-055-00	s	RES, CHIP 1.8k 5% 1/10W
1-216-057-00	s	RES, CHIP 2.2k 5% 1/10W
1-216-059-00	s	RES, CHIP 2.7k 5% 1/10W
1-216-061-00	s	RES, CHIP 3.3k 5% 1/10W
1-216-063-00	s	RES, CHIP 3.9k 5% 1/10W
1-216-065-00	s	RES, CHIP 4.7k 5% 1/10W
1-216-067-00	s	RES, CHIP 5.6k 5% 1/10W
1-216-069-00	s	RES, CHIP 6.8k 5% 1/10W
1-216-071-00	s	RES, CHIP 8.2k 5% 1/10W
1-216-073-00	s	RES, CHIP 10k 5% 1/10W
1-216-075-00	s	RES, CHIP 12k 5% 1/10W
1-216-077-00	s	RES, CHIP 15k 5% 1/10W
1-216-079-00	s	RES, CHIP 18k 5% 1/10W
1-216-081-00	s	RES, CHIP 22k 5% 1/10W
1-216-083-00	s	RES, CHIP 27k 5% 1/10W
1-216-085-00	s	RES, CHIP 33k 5% 1/10W
1-216-748-11	s	RES, CHIP 39k 5% 1/10W
1-216-089-00	s	RES, CHIP 47k 5% 1/10W
1-216-091-00	s	RES, CHIP 56k 5% 1/10W

RESISTOR, CHIP

Part No.	SP	Description
1-216-093-00	s	RES, CHIP 68k 5% 1/10W
1-216-095-00	s	RES, CHIP 82k 5% 1/10W
1-216-097-00	s	RES, CHIP 100k 5% 1/10W
1-216-099-00	s	RES, CHIP 120k 5% 1/10W
1-216-101-00	s	RES, CHIP 150k 5% 1/10W
1-216-103-00	s	RES, CHIP 180k 5% 1/10W
1-216-105-00	s	RES, CHIP 220k 5% 1/10W
1-216-107-00	s	RES, CHIP 270k 5% 1/10W
1-216-109-00	s	RES, CHIP 330k 5% 1/10W
1-216-111-00	s	RES, CHIP 390k 5% 1/10W
1-216-113-00	s	RES, CHIP 470k 5% 1/10W
1-216-115-00	s	RES, CHIP 560k 5% 1/10W
1-216-117-00	s	RES, CHIP 680k 5% 1/10W
1-216-119-00	s	RES, CHIP 820k 5% 1/10W
1-216-121-00	s	RES, CHIP 1.0M 5% 1/10W
1-216-123-11	s	RES, CHIP 1.2M 5% 1/10W
1-216-125-00	s	RES, CHIP 1.5M 5% 1/10W
1-216-127-11	s	RES, CHIP 1.8M 5% 1/10W
1-216-129-00	s	RES, CHIP 2.2M 5% 1/10W
1-216-131-11	s	RES, CHIP 2.7M 5% 1/10W
1-216-133-00	s	RES, CHIP 3.3M 5% 1/10W

CA-15 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-231-A	o	MOUNTED CIRCUIT BOARD "CA-15"
C1	1-131-377-00	s	TANTALUM 10uF 10% 10V
C2	1-124-472-11	s	ELECT 470uF 20% 10V
C3	1-126-176-11	s	ELECT 220uF 20% 10V
C4	1-163-227-11	s	CERAMIC 10PF 5% 50V
C5	1-124-584-00	s	ELECT 100uF 20% 10V
C6	1-124-589-11	s	ELECT 47uF 20% 10V
C7	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C8	1-124-638-11	s	ELECT 22uF 20% 6.3V
C9	1-124-589-11	s	ELECT 47uF 20% 10V
C10	1-163-227-11	s	CERAMIC 10PF 5% 50V
C11	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C12	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C13	1-124-584-00	s	ELECT 100uF 20% 10V
C14	1-163-038-00	s	CERAMIC CHIP 0.1uF 25V
C15	1-131-365-00	s	TANTALUM 10uF 10% 16V
C16	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C17	1-131-365-00	s	TANTALUM 10uF 10% 16V
C18	1-131-377-00	s	TANTALUM 10uF 10% 10V
C19	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C20	1-131-347-00	s	TANTALUM 1uF 10% 35V
C21	1-126-301-11	s	ELECT 1uF 20% 50V
C22	1-124-463-00	s	ELECT 0.1uF 20% 50V
C23	1-126-301-11	s	ELECT 1uF 20% 50V
C24	1-163-038-00	s	CERAMIC CHIP 0.1uF 25V
C25	1-124-584-00	s	ELECT 100uF 20% 10V
C26	1-124-893-11	s	ELECT 2200uF 20% 6.3V
C27	1-126-176-11	s	ELECT 220uF 20% 10V
C28	1-163-036-00	s	CERAMIC CHIP 0.068uF 50V
C29	1-126-157-11	s	ELECT 10uF 20% 16V
C30	1-124-472-11	s	ELECT 470uF 20% 10V
C31	1-126-154-11	s	ELECT 47uF 20% 6.3V
C32	1-163-251-11	s	CERAMIC 100PF 5% 50V
C33	1-126-157-11	s	ELECT 10uF 20% 16V
C34	1-163-251-11	s	CERAMIC 100PF 5% 50V
C35	1-124-584-00	s	ELECT 100uF 20% 10V
C36	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C37	1-124-584-00	s	ELECT 100uF 20% 10V
C38	1-124-584-00	s	ELECT 100uF 20% 10V
C39	1-126-176-11	s	ELECT 220uF 20% 10V
C40	1-131-365-00	s	TANTALUM 10uF 10% 16V
C41	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C42	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C43	1-124-584-00	s	ELECT 100uF 20% 10V
C44	1-124-584-00	s	ELECT 100uF 20% 10V
C45	1-126-176-11	s	ELECT 220uF 20% 10V
C46	1-126-176-11	s	ELECT 220uF 20% 10V
C47	1-126-176-11	s	ELECT 220uF 20% 10V
C48	1-126-176-11	s	ELECT 220uF 20% 10V
C49	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C50	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C51	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C52	1-164-232-11	s	CERAMIC CHIP 0.01uF 20% 100V
C53	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C54	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C55	1-124-584-00	s	ELECT 100uF 20% 10V
C56	1-124-584-00	s	ELECT 100uF 20% 10V
C57	1-126-157-11	s	ELECT 10uF 20% 16V

(CA-15 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C58	1-126-157-11	s	ELECT 10uF 20% 16V
C59	1-163-235-11	s	CERAMIC 22PF 5% 50V
CN1	1-566-581-11	o	CONNECTOR,MULTI 50P
CN2	1-506-477-11	o	CONNECTOR, 12P, MALE
	1-569-205-11	o	PLUG HOUSING, 12P
	1-569-191-11	o	TERMINAL, SOLDERLESS
	1-569-193-11	o	CONTACT
CN3	1-506-471-11	o	CONNECTOR, 6P, MALE
CN4	1-506-470-11	o	CONNECTOR, 5P, MALE
CN5	1-506-469-11	o	CONNECTOR, 4P, MALE
	1-569-197-11	o	PLUG HOUSING, 4P
	1-569-191-11	o	TERMINAL, SOLDERLESS
	1-569-193-11	o	CONTACT
CN6	1-560-356-00	o	CONNECTOR POST HEADER, ILG (2P)
CN7	1-506-467-11	o	CONNECTOR, 2P, MALE
	1-569-195-11	s	HOUSING, CONNECTOR 2P
	1-569-191-11	o	TERMINAL, SOLDERLESS
	1-569-193-11	o	CONTACT
CN8	1-506-469-11	o	CONNECTOR, 4P, MALE
CN9	1-564-467-11	o	CONNECTOR, 2P, MALE
	1-569-195-11	s	HOUSING, CONNECTOR 2P
	1-569-191-11	o	TERMINAL, SOLDERLESS
	1-569-193-11	o	CONTACT
CN10	1-506-467-11	o	CONNECTOR, 2P, MALE
D2	8-719-104-31	s	DIODE 1S2838
D3	8-719-104-34	s	DIODE 1S2836
D4	8-719-104-31	s	DIODE 1S2838
D5	8-719-104-31	s	DIODE 1S2838
D6	8-719-106-16	s	DIODE RD6.8M-B1
D7	8-719-104-34	s	DIODE 1S2836
D8	8-719-105-32	s	DIODE RD2.7M-B2
D9	8-719-800-76	s	DIODE 1SS226
D10	8-719-800-76	s	DIODE 1SS226
D11	8-719-104-34	s	DIODE 1S2836
D12	8-719-106-70	s	DIODE RD12M-B1
D13	8-719-105-63	s	DIODE RD4.3M-B1
D14	8-719-800-76	s	DIODE 1SS226
D15	8-719-104-31	s	DIODE 1S2838
D16	8-719-938-75	s	SB05-05CP
D17	8-719-104-31	s	DIODE 1S2838
D18	8-719-104-31	s	DIODE 1S2838
IC1	8-759-981-65	s	IC LM2903M
IC2	8-759-300-71	s	IC MC14053BF
IC3	8-759-300-71	s	IC MC14053BF
IC4	8-759-300-71	s	IC MC14053BF
IC5	8-759-300-71	s	IC MC14053BF
IC6	8-759-100-96	s	IC UPC4558G2
IC7	8-759-605-18	s	IC CX518
IC8	8-759-981-58	s	IC RC2043MD
IC9	8-759-300-71	s	IC MC14053BF
IC10	8-759-981-99	s	IC RC4560M
L1	1-408-413-00	s	MICRO 22uH
L2	1-408-413-00	s	MICRO 22uH
L3	1-410-478-11	s	47uH
L4	1-410-478-11	s	47uH
L6	1-410-478-11	s	47uH

(CA-15 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
L7	1-408-413-00	s	MICRO 22uH
L8	1-408-413-00	s	MICRO 22uH
Q1	8-729-201-05	s	TRANSISTER 2SC2878-B
Q2	8-729-201-05	s	TRANSISTER 2SC2878-B
Q3	8-729-216-22	s	TRANSISTOR 2SA1162
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-402-19	s	TRANSISTOR XN6501
Q6	8-729-100-66	s	TRANSISTOR 2SC1623
Q7	8-729-216-22	s	TRANSISTOR 2SA1162
Q8	8-729-216-22	s	TRANSISTOR 2SA1162
Q9	8-729-402-19	s	TRANSISTOR XN6501
Q10	8-729-216-22	s	TRANSISTOR 2SA1162
Q11	8-729-100-66	s	TRANSISTOR 2SC1623
Q12	8-729-100-66	s	TRANSISTOR 2SC1623
Q13	8-729-100-66	s	TRANSISTOR 2SC1623
Q14	8-729-100-66	s	TRANSISTOR 2SC1623
Q15	8-729-216-22	s	TRANSISTOR 2SA1162
Q16	8-729-100-66	s	TRANSISTOR 2SC1623
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-100-66	s	TRANSISTOR 2SC1623
Q19	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-402-84	s	TRANSISTER XN4601
Q21	8-729-109-41	s	TRANSISTOR 2SK94-X1
Q22	8-729-402-19	s	TRANSISTOR XN6501
Q23	8-729-402-84	s	TRANSISTER XN4601
Q24	8-729-403-32	s	TRANSISTOR XN6534
Q25	8-729-216-22	s	TRANSISTOR 2SA1162
Q26	8-729-402-19	s	TRANSISTOR XN6501
Q27	8-729-402-78	s	TRANSISTOR XN6401
Q28	8-729-100-66	s	TRANSISTOR 2SC1623
Q29	8-729-403-32	s	TRANSISTOR XN6534
Q30	8-729-216-22	s	TRANSISTOR 2SA1162
Q31	8-729-402-19	s	TRANSISTOR XN6501
Q32	8-729-402-78	s	TRANSISTOR XN6401
Q33	8-729-403-32	s	TRANSISTOR XN6534
Q34	8-729-216-22	s	TRANSISTOR 2SA1162
Q35	8-729-402-19	s	TRANSISTOR XN6501
Q36	8-729-402-78	s	TRANSISTOR XN6401
Q37	8-729-201-05	s	TRANSISTER 2SC2878-B
R1	1-249-399-11	s	CARBON 33 5% 1/4W
R8	1-215-393-00	s	METAL 68 1% 1/6W
R9	1-215-393-00	s	METAL 68 1% 1/6W
R22	1-215-394-00	s	METAL 75 1% 1/6W
R42	1-215-393-00	s	METAL 68 1% 1/6W
R54	1-215-394-00	s	METAL 75 1% 1/6W
R91	1-215-431-00	s	METAL 2.7K 1% 1/6W
R95	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R103	1-215-394-00	s	METAL 75 1% 1/6W
R104	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R119	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R120	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R127	1-215-394-00	s	METAL 75 1% 1/6W
R131	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R132	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R139	1-215-394-00	s	METAL 75 1% 1/6W
RV1	1-226-703-11	s	RES, ADJ, METAL 10K
RV2	1-226-775-11	s	RES, ADJ, METAL 100K

(CA-15 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
T1	1-427-270-XX	s	TRANSFORMER,OUTPUT
T2	1-427-487-00	s	TRANSFORMER, OUTPUT

CN-498 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7520-519-A	o	MOUNTED CIRCUIT BOARD "CN-498"
CN1	1-506-702-11	o	CONNECTOR, ILG 3P,
	1-561-515-00	o	HOUSING, ILG 3P FEMALE
	1-560-372-00	o	CONTACT, AWG22-28
CN2	1-506-702-11	o	CONNECTOR, ILG 3P,
	1-561-515-00	o	HOUSING, ILG 3P FEMALE
	1-560-372-00	o	CONTACT, AWG22-28
CN3	1-560-356-00	o	CONNECTOR POST HEADER, ILG (2P) MAL
	1-561-514-00	o	HOUSING, ILG 2P FEMALE
	1-560-372-00	o	CONTACT, AWG22-28
CN6	1-561-514-00	o	HOUSING, ILG 2P FEMALE
	1-560-372-00	o	CONTACT, AWG22-28
CN10	1-569-195-11	s	HOUSING, CONNECTOR 2P
	1-562-735-11	o	HOUSING, 2P
	1-564-831-11	o	CONTACT
	1-569-193-11	o	CONTACT
S1	1-553-739-21	s	SWITCH, PUSH

CN-527 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-636-740-12	o	PRINTED CIRCUIT BOARD "CN-527"
CN8	1-569-197-11	o	HOUSING, CONNECTER 4P
	1-569-191-11	o	CONTACT
	1-569-193-11	o	CONTACT

SW-447 BOARD

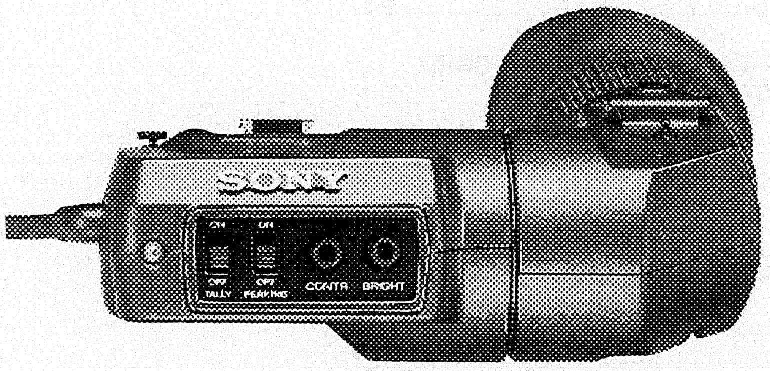
Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7520-518-A	o	MOUNTED CIRCUIT BOARD "SW-447"
C1	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C2	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C3	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C4	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
CN3	1-569-199-11	o	PLUG HOUSING, 6P
	1-562-739-11	o	HOUSING, CONNECTOR 6P
	1-564-831-11	o	CONTACT
	1-569-193-11	o	CONTACT
CN4	1-569-198-11	o	PLUG HOUSING, 5P
	1-562-738-11	o	HOUSING, 5P
	1-564-831-11	o	CONTACT
	1-569-191-11	o	TERMINAL, SOLDERLESS
	1-569-193-11	o	CONTACT
JK1	1-507-883-00	s	JACK, SMALL TYPE 4P
JK2	1-566-740-11	s	JACK
S1	1-554-955-11	s	SWITCH, ROTARY "VTR"

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
C1001	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C1002	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
CN101	1-508-942-00	s	RECEPTACLE, 14P MAIL "VTR/CCU/CMA"
CN102	1-564-603-11	s	CONNECTOR WITH DC SW, 4P, MALE
CN103	1-563-096-11	s	RECEPTACLE, 3P FEMAIL(WITH SW) "MIC IN"
CN104	1-568-699-11	s	SOCKET, MINIATURE(ROUND) 4P "S VIDEO OUT"
CN105	1-507-918-00	o	JACK, 1P "AUDIO OUT"
CN106	1-561-781-11	s	CONNECTOR, BNC, FEMALE
R1001	1-247-826-00	s	CARBON 620 5% 1/4W
SW101	1-552-665-00	s	SWITCH, MICRO

DXF-501

1.5INCH ELECTRONIC VIEWFINDER



SPECIFICATIONS

Picture tube	1.5-inch monochrome
Indicators	REC/TALLY indicator BATT indicator SHUTTER indicator GAIN UP indicator
Resolution	400 lines
Power requirements	12 V DC
Power consumption	2.3 W
Weight	Approx. 500 g (1 lb 2 oz)
Dimensions	Approx. 182 × 68 × 205 mm (w/h/d)
Supplied accessory	Operating Instructions (1)

Design and specifications are subject to change without notice.

SONY®

SERVICE MANUAL

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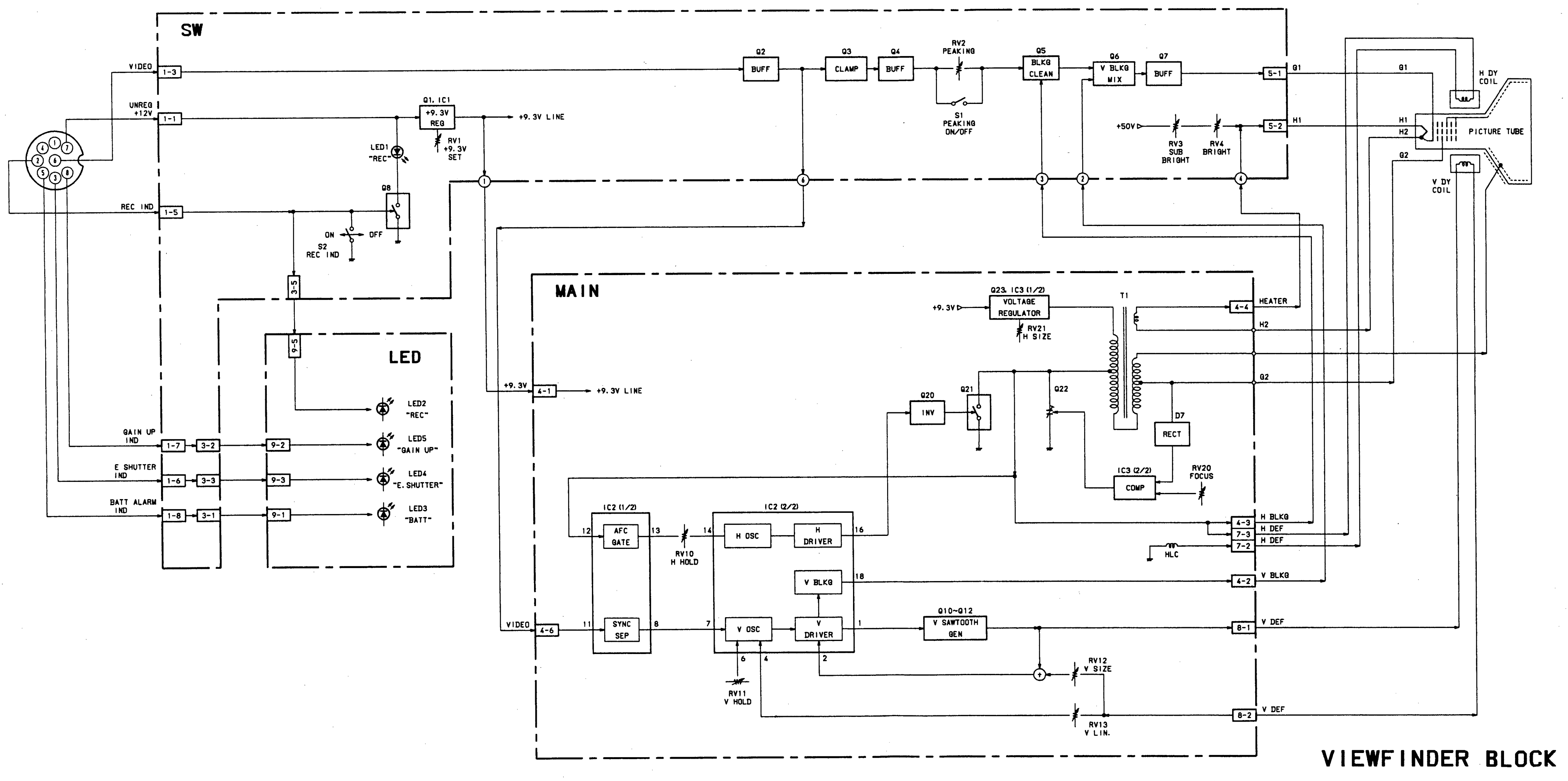
SECTION A
BLOCK DIAGRAM


SW
VIDEO
1-3
UNREG +12V
1-1
REC IND
1-5
Q1, IC1
+9.3V REG
+9.3V LINE
RV1 +9.3V SET
LED1 "REC"
Q8
ON
OFF
S2 REC IND
3-5
9-5
LED
LED2 "REC"
GAIN UP IND
1-7
3-2
9-2
LED5 "GAIN UP"
E SHUTTER IND
1-6
3-3
9-3
LED4 "E.SHUTTER"
BATT ALARM IND
1-8
3-1
9-1
LED3 "BATT"
Q2
BUFF
Q3
CLAMP
Q4
BUFF
RV2 PEAKING
S1 PEAKING ON/OFF
Q5
BLKG CLEAN
Q6
V BLKG MIX
Q7
BUFF
5-1
G1
+50V
RV3 SUB BRIGHT
RV4 BRIGHT
5-2
H1
H2
G2
H DY COIL
PICTURE TUBE
V DY COIL
MAIN
+9.3V
4-1
+9.3V LINE
Q23, IC3 (1/2)
VOLTAGE REGULATOR
RV21 H SIZE
T1
4-4
HEATER
Q20
INV
Q21
Q22
D7
RECT
IC3 (2/2)
COMP
RV20 FOCUS
IC2 (1/2)
AFC GATE
12
13
RV10 H HOLD
14
IC2 (2/2)
H OSC
H DRIVER
16
4-3
H BLKG
7-3
H DEF
7-2
H DEF
HLC
V BLKG
18
4-2
V BLKG
VIDEO
4-6
11
SYNC SEP
8
7
V OSC
V DRIVER
1
Q10~Q12
V SAWTOOTH GEN
8-1
V DEF
6
4
2
RV11 V HOLD
RV12 V SIZE
RV13 V LIN.
8-2
V DEF

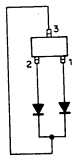
VIEWFINDER BLOCK

SECTION B
SEMICONDUCTOR PIN ASSIGNMENTS

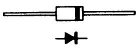
The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

< DIODE >

TOP VIEW (SCALE 4/1)

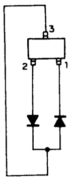


1S2837
DAN202K

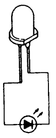


1SS133
1SS136
ERA15-06
ERA22-08

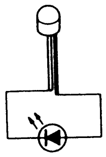
TOP VIEW (SCALE 4/1)



DA204K



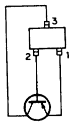
SLH-56VT



TLO102A
TLR109A

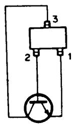
<TRANSISTOR >

TOP VIEW (SCALE 4/1)

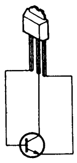


2SA812
2SB624

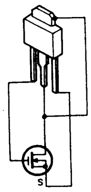
TOP VIEW (SCALE 4/1)



2SC2812
2SC2814
2SC3722K



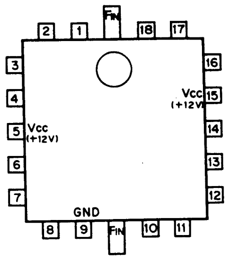
2SD1220

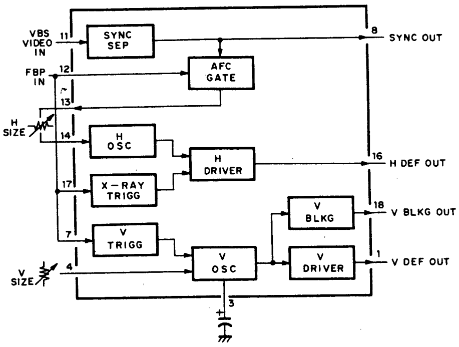


2SK612

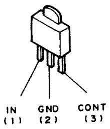
< IC >

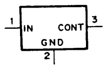
HA11423MP (HITACHI) FLAT PACKAGE
TV H/V SYNC SIGNAL PROCESSOR
– TOP VIEW –


2
1
FIN
18
17
3
16
4
Vcc
(+12V)
15
5
Vcc
(+12V)
14
6
13
7
12
GND
8
9
FIN
10
11

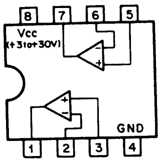

VBS VIDEO IN
11
SYNC SEP
8
SYNC OUT
FBP IN
12
AFC GATE
13
H SIZE
14
H OSC
H DRIVER
16
H DEF OUT
17
X-RAY TRIGG
18
V BLKG
V BLKG OUT
7
V TRIGG
4
V OSC
V DRIVER
1
V DEF OUT
V SIZE
3

M5236ML (MITSUBISI)
ADJUSTABLE VOLTAGE REGULATOR

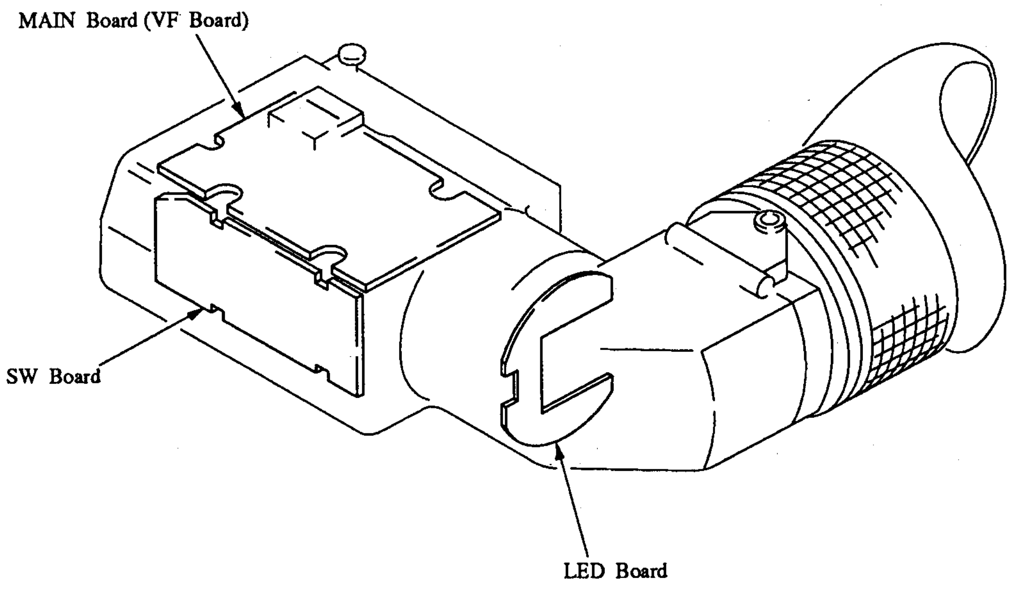

IN (1)
GND (2)
CONT (3)


1
IN
CONT
3
GND
2

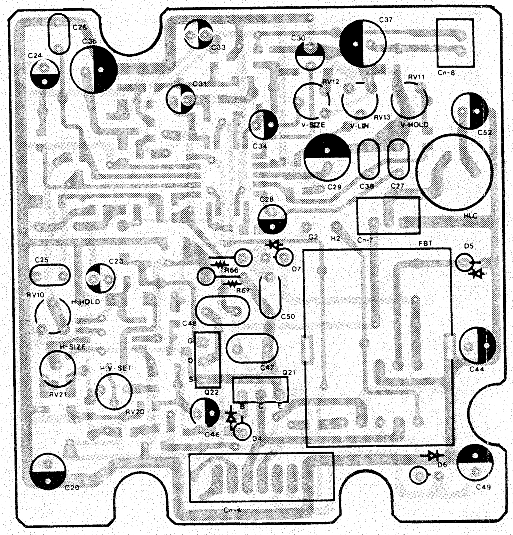
uPC358G2 (NEC) FLAT PACKAGE
DUAL OPERATIONAL AMPLIFIERS
– TOP VIEW –


8
7
6
5
Vcc
(+3to+30V)
GND
1
2
3
4

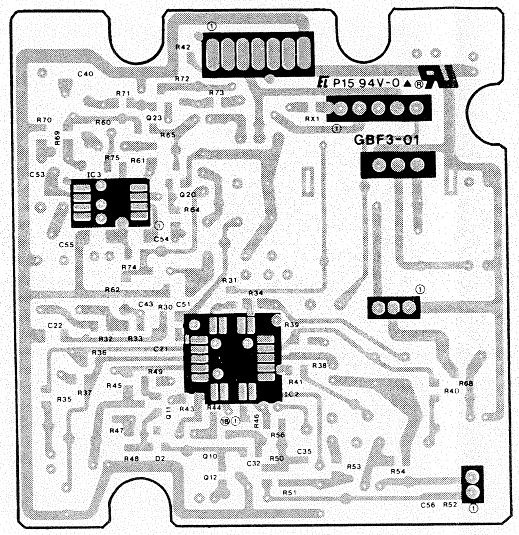
SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS


MAIN Board (VF Board)
SW Board
LED Board

MAIN BOARD

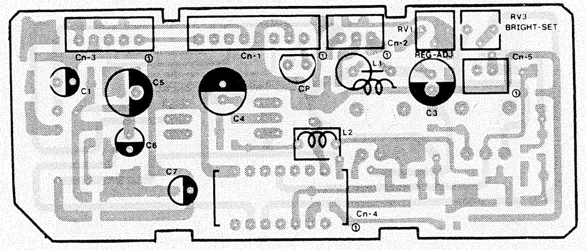

HOLD
H-SIZE
H-V SET
V-SIZE
V-LIN
V-HOLD
FBT

COMPONENT SIDE

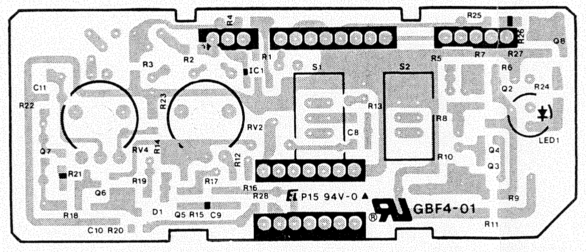

P15 94V-0
GBF3-01
IC3
IC2

SOLDERING SIDE

SW BOARD

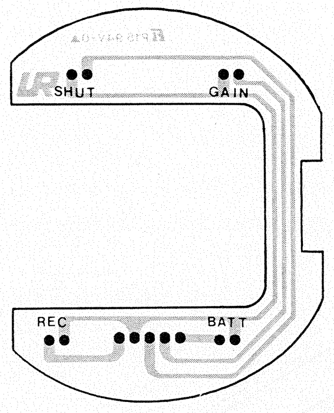

BRIGHT-SET
REG-ADJ

COMPONENT SIDE

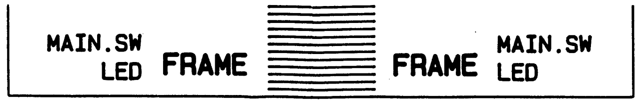

P15 94V-0
GBF4-01
LED1

SOLDERING SIDE

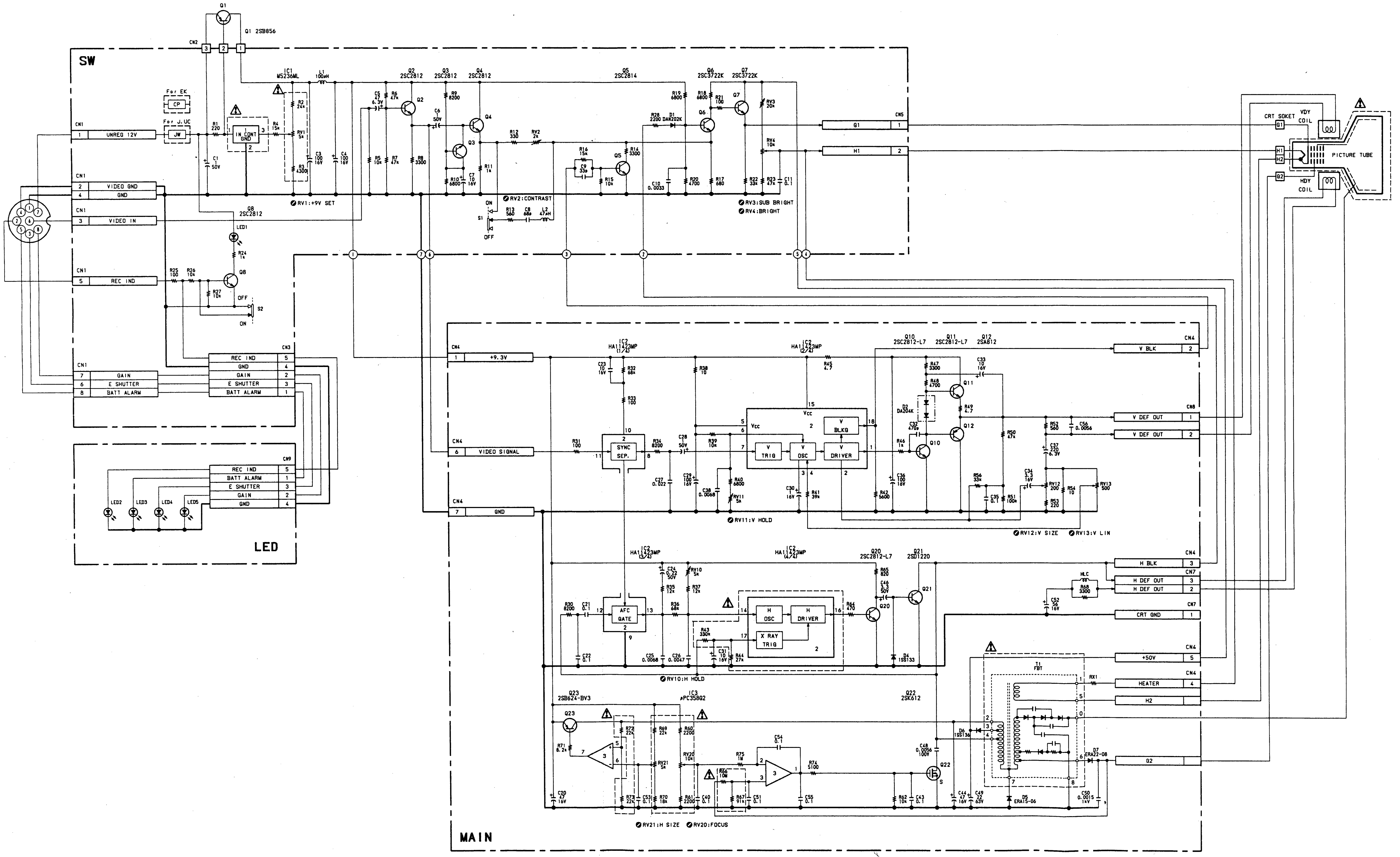
LED BOARD


SHUT
GAIN
REC
BATT

COMPONENT SIDE


MAIN.SW
LED
FRAME
FRAME
MAIN.SW
LED

FRAME


SW
LED
MAIN
Q1 2SB856
CN2
IC1 M5236ML
L1 100μH
Q2 2SC2812
Q3 2SC2812
Q4 2SC2812
Q5 2SC2814
Q6 2SC3722K
Q7 2SC3722K
For EK
CP
For J.UC
JW
IN CONT GND
CN1
UNREG 12V
VIDEO GND
GND
VIDEO IN
REC IND
GAIN
E SHUTTER
BATT ALARM
Q8 2SC2812
LED1
LED2
LED3
LED4
LED5
S1
S2
ON
OFF
CN3
CN9
RV1:+9V SET
RV2:CONTRAST
RV3:SUB BRIGHT
RV4:BRIGHT
CN5
G1
H1
CRT SOKET
VDY COIL
HDY COIL
PICTURE TUBE
H2
G2
CN4
+9.3V
VIDEO SIGNAL
GND
IC2 HA11423MP (1/4)
IC2 HA11423MP (2/4)
IC2 HA11423MP (3/4)
IC2 HA11423MP (4/4)
SYNC SEP.
Vcc
V TRIG
V OSC
V BLKG
V DRIVER
Q10 2SC2812-L7
Q11 2SC2812-L7
Q12 2SA812
D2 DA204K
V BLK
CN8
V DEF OUT
RV11:V HOLD
RV12:V SIZE
RV13:V LIN
AFC GATE
H OSC
H DRIVER
X RAY TRIG
Q20 2SC2812-L7
Q21 2SD1220
D4 1SS133
H BLK
CN7
H DEF OUT
HLC
CRT GND
RV10:H HOLD
+50V
T1 FBT
HEATER
Q23 2SB624-BV3
IC3 μPC358G2
Q22 2SK612
D6 1SS136
D5 ERA15-06
D7 ERA22-08
RV21:H SIZE
RV20:FOCUS

SECTION D
SPARE PARTS

PARTS INFORMATION

1. **Safety Related Component Warning**

   Components indentified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

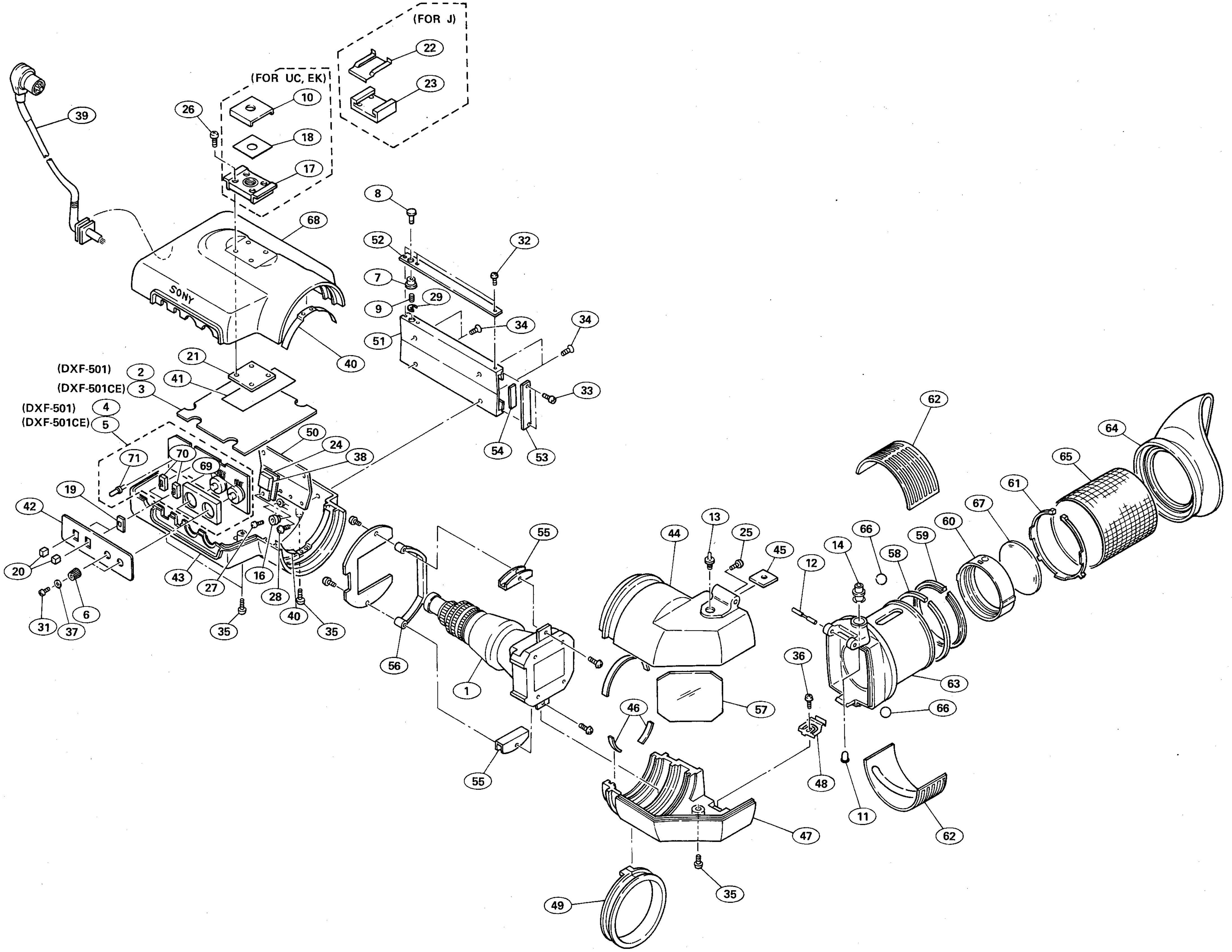
2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to **"accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."** This manual 's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present." Regarding engineering parts and diagrams changes in our engineering department, refer to SONY service bulletins and service manual supplements.

3. The parts marked with "S" in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. All capacitors are in micro farads unless otherwise specified.
   All inductors are in micro henries unless otherwise specified.
   All resistors are in ohms.

EXPLODED VIEW


(FOR J)
22
23
(FOR UC, EK)
10
26
18
17
39
8
68
SONY
52
32
7
29
9
34
34
51
40
21
(DXF-501) 2
(DXF-501CE) 3
41
(DXF-501) 4
(DXF-501CE) 5
33
62
64
50
24
38
54
53
65
71
70
69
61
19
42
67
60
55
44
13
25
66
59
14
58
45
12
20
43
27
16
28
40
35
31
37
6
35
35
56
1
36
63
46
57
66
48
55
11
47
62
49
35

No.		Part No.	SP	Description
1	⚠	1-546-078-11	s	CRT/DY ASSY
2		1-589-128-11	o	MAIN BOARD (for DXF-501)
3		1-589-128-21	o	MAIN BOARD (for DXF-501CE)
4		1-589-129-11	o	SW BOARD (for DXF-501)
5		1-589-129-21	o	SW BOARD (for DXF-501CE)
6		2-277-453-00	s	KNOB, CONTROL
7		2-277-456-00	s	COLLER, STOPPER
8		2-277-457-00	s	KNOB, STOPPER
9		2-277-466-01	s	SPRING, COMPRESSION
10		2-277-468-01	o	PLATE, ORNAMENTAL, CAMERA, SHOE
11		2-381-461-02	s	PIN, BLIND
12		2-381-462-01	s	PIN
13		2-381-468-01	s	PIN, STOPPER
14		2-381-472-02	o	STOPPER
16		2-832-007-00	s	BUSHING (K), INSULATING
17		3-657-700-00	s	BRACKET, ACCESSORY
18		3-672-213-01	o	SHEET, ADHESIVE
19		3-680-604-01	o	PLATE, BLIND
20		3-680-605-00	o	CAP, SLIDE
21		3-688-709-01	s	NUT, PLATE, SHOE
24		3-703-037-00	s	INSULATOR, TO-220
25		7-621-255-25	s	SCREW +P2X4
26		7-621-255-52	s	SCREW +P2X8
27		7-621-773-95	s	SCREW +B2.6X6
28		7-621-775-00	s	SCREW +B2.6X3
29		7-624-102-04	s	STOP RING, TYPE E
31		7-627-552-58	s	SCREW, PRECISION +P1.7X5
32		7-627-553-28	s	SCREW, PRECISION +P2X2.5
33		7-627-553-68	s	SCREW, PRECISION +P2X6
34		7-682-248-09	s	SCREW +K3X8
35		7-682-550-09	s	SCREW +B3X12
36		7-685-131-19	s	SCREW +BTP2.6X4
37		7-688-008-04	s	WASHER
38		8-729-385-82	s	TRANSISTOR 2SB858
39		9-994-797-01	s	CABLE, VF
40		9-994-811-01	o	SPRING, PLATE
41		9-994-812-01	o	INSULATOR
42		9-994-813-01	o	LABEL, SWITCH
43		9-994-814-01	o	CASE, BOTTOM
44		9-994-815-01	o	HOLDER T, OUTSIDE
45		9-994-816-01	o	PLATE, NUT
46		9-994-817-01	o	MOLT
47		9-994-818-01	o	HOLDER B, OUTSIDE
48		9-994-819-01	o	PIN, LOCK
49		9-994-820-01	o	RING, SLIDE
50		9-994-821-01	o	NUT, PLATE, CASE
51		9-994-822-01	o	GUIDE, VF SLIDE
52		9-994-823-01	o	LABEL, SLIDE
53		9-994-824-01	o	STOPPER
54		9-994-825-01	o	RUBBER, STOPPER
55		9-994-826-01	o	STOPPER, PWB
56		9-994-827-01	o	COLLER
57		9-997-916-01	o	MIRROR
58		9-997-917-01	o	SPACER
59		9-997-918-01	o	RING, LOCK
60		9-997-919-01	o	HOLDER A, LENS
61		9-997-920-01	o	HOLDER B, LENS
62		9-997-921-01	o	RING, ADJUSTMENT
63		9-997-922-01	o	LID
64		9-997-923-01	s	EYECUP
65		9-997-924-01	o	RING, RUBBER
66		9-997-925-01	o	BALL, STEEL
67		3-680-417-01	s	LUPE B, VF
68		9-998-810-01	o	CASE, TOP
69		1-230-075-00	s	RES, VAR, METAL 2K "CONTR" "BRIGHT"
70		1-570-845-11	s	SWITCH, SLIDE "TALLY ON/OFF" "PEAKING ON/OFF"
71		9-994-802-01	s	DIODE SLH-56VT

RESISTOR, CHIP

1/10W
0 - 3.3M (E12) +-5% 1/10W

Ref. No.	Part No.	SP	Description
	1-216-295-00	s	RES, CHIP 0 5% 1/10W
	1-216-298-00	s	RES, CHIP 2.2 5% 1/10W
	1-216-302-00	s	RES, CHIP 2.7 5% 1/10W
	1-216-304-00	s	RES, CHIP 3.3 5% 1/10W
	1-216-306-00	s	RES, CHIP 3.9 5% 1/10W
	1-216-308-00	s	RES, CHIP 4.7 5% 1/10W
	1-216-309-00	s	RES, CHIP 5.6 5% 1/10W
	1-216-311-00	s	RES, CHIP 6.8 5% 1/10W
	1-216-313-00	s	RES, CHIP 8.2 5% 1/10W
	1-216-001-00	s	RES, CHIP 10 5% 1/10W
	1-216-003-00	s	RES, CHIP 12 5% 1/10W
	1-216-005-00	s	RES, CHIP 15 5% 1/10W
	1-216-007-00	s	RES, CHIP 18 5% 1/10W
	1-216-009-00	s	RES, CHIP 22 5% 1/10W
	1-216-011-00	s	RES, CHIP 27 5% 1/10W
	1-216-013-00	s	RES, CHIP 33 5% 1/10W
	1-216-015-00	s	RES, CHIP 39 5% 1/10W
	1-216-017-00	s	RES, CHIP 47 5% 1/10W
	1-216-019-00	s	RES, CHIP 56 5% 1/10W
	1-216-021-00	s	RES, CHIP 68 5% 1/10W
	1-216-023-00	s	RES, CHIP 82 5% 1/10W
	1-216-025-00	s	RES, CHIP 100 5% 1/10W
	1-216-027-00	s	RES, CHIP 120 5% 1/10W
	1-216-029-00	s	RES, CHIP 150 5% 1/10W
	1-216-031-00	s	RES, CHIP 180 5% 1/10W
	1-216-033-00	s	RES, CHIP 220 5% 1/10W
	1-216-035-00	s	RES, CHIP 270 5% 1/10W
	1-216-037-00	s	RES, CHIP 330 5% 1/10W
	1-216-039-00	s	RES, CHIP 390 5% 1/10W
	1-216-041-00	s	RES, CHIP 470 5% 1/10W
	1-216-043-00	s	RES, CHIP 560 5% 1/10W
	1-216-045-00	s	RES, CHIP 680 5% 1/10W
	1-216-047-00	s	RES, CHIP 820 5% 1/10W
	1-216-049-00	s	RES, CHIP 1k 5% 1/10W
	1-216-051-00	s	RES, CHIP 1.2k 5% 1/10W
	1-216-053-00	s	RES, CHIP 1.5k 5% 1/10W
	1-216-055-00	s	RES, CHIP 1.8k 5% 1/10W
	1-216-057-00	s	RES, CHIP 2.2k 5% 1/10W
	1-216-059-00	s	RES, CHIP 2.7k 5% 1/10W
	1-216-061-00	s	RES, CHIP 3.3k 5% 1/10W
	1-216-063-00	s	RES, CHIP 3.9k 5% 1/10W
	1-216-065-00	s	RES, CHIP 4.7k 5% 1/10W
	1-216-067-00	s	RES, CHIP 5.6k 5% 1/10W
	1-216-069-00	s	RES, CHIP 6.8k 5% 1/10W
	1-216-071-00	s	RES, CHIP 8.2k 5% 1/10W
	1-216-073-00	s	RES, CHIP 10k 5% 1/10W
	1-216-075-00	s	RES, CHIP 12k 5% 1/10W
	1-216-077-00	s	RES, CHIP 15k 5% 1/10W
	1-216-079-00	s	RES, CHIP 18k 5% 1/10W
	1-216-081-00	s	RES, CHIP 22k 5% 1/10W
	1-216-083-00	s	RES, CHIP 27k 5% 1/10W
	1-216-085-00	s	RES, CHIP 33k 5% 1/10W
	1-216-087-00	s	RES, CHIP 39k 5% 1/10W
	1-216-089-00	s	RES, CHIP 47k 5% 1/10W
	1-216-091-00	s	RES, CHIP 56k 5% 1/10W
	1-216-093-00	s	RES, CHIP 68k 5% 1/10W
	1-216-095-00	s	RES, CHIP 82k 5% 1/10W
	1-216-097-00	s	RES, CHIP 100k 5% 1/10W
	1-216-099-00	s	RES, CHIP 120k 5% 1/10W
	1-216-101-00	s	RES, CHIP 150k 5% 1/10W
	1-216-103-00	s	RES, CHIP 180k 5% 1/10W
	1-216-105-00	s	RES, CHIP 220k 5% 1/10W
	1-216-107-00	s	RES, CHIP 270k 5% 1/10W
	1-216-109-00	s	RES, CHIP 330k 5% 1/10W
	1-216-111-00	s	RES, CHIP 390k 5% 1/10W
	1-216-113-00	s	RES, CHIP 470k 5% 1/10W
	1-216-115-00	s	RES, CHIP 560k 5% 1/10W
	1-216-117-00	s	RES, CHIP 680k 5% 1/10W
	1-216-119-00	s	RES, CHIP 820k 5% 1/10W
	1-216-121-00	s	RES, CHIP 1.0M 5% 1/10W
	1-216-123-00	s	RES, CHIP 1.2M 5% 1/10W
	1-216-125-00	s	RES, CHIP 1.5M 5% 1/10W
	1-216-127-00	s	RES, CHIP 1.8M 5% 1/10W
	1-216-129-00	s	RES, CHIP 2.2M 5% 1/10W
	1-216-131-00	s	RES, CHIP 2.7M 5% 1/10W
	1-216-133-00	s	RES, CHIP 3.3M 5% 1/10W

MAIN BOARD

Ref. No.	Part No.	SP	Description
	1-589-128-11	o	MOUNTED CIRCUIT BOARD "MAIN"
	9-994-794-01	s	CRT
C20	9-994-781-01	s	TANTALUM 47 16V
C21	1-163-038-11	s	CHIP CERAMIC 0.1 25V
C22	1-163-038-11	s	CHIP CERAMIC 0.1 25V
C23	1-126-157-11	s	ELECT 10 20% 16V
C24	1-124-464-11	s	ELECT 0.22 20% 50V
C26	9-994-780-01	s	P-P CONDENCER 0.0047
C28	1-124-438-11	s	ELECT 1 20% 50V
C29	1-124-584-11	s	ELECT 100 20% 10V
C30	1-131-347-00	s	TANTALUM 1 10% 35V
C31	1-126-157-11	s	ELECT 10 20% 16V
C32	1-163-133-11	s	CHIP CERAMIC 470PF 5% 50V
C33	1-126-157-11	s	ELECT 10 20% 16V
C34	1-126-162-11	s	ELECT 3.3 20% 50V
C35	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C36	1-124-455-00	s	ELECT 100 20% 16V
C37	9-994-777-01	s	ELECT 220 6.3V
C38	1-130-481-11	s	CAP,PE TEREPHTHALATE 0.0068 5% 50V
C40	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C43	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C44	9-994-782-01	s	TANTALUM 47 16V
C46	1-126-162-11	s	ELECT 3.3 20% 50V
C48	9-994-783-01	s	0.0056 100V
C49	9-994-778-01	s	ELECT 22 63V
C50	9-994-784-01	s	0.0015 1K
C51	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C52	9-994-779-01	s	ELECT 56 16V
C53	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C54	1-163-088-11	s	CHIP CERAMIC 0.1 25V
C55	1-163-088-11	s	CHIP CERAMIC 0.1 25V
CN4	9-994-791-01	o	RECEPTACLE, 7P
CN7	9-994-792-01	o	RECEPTACLE, 3P
CN8	9-994-793-01	o	RECEPTACLE, 2P
D2	8-719-914-42	s	DA204K
D4	8-719-911-19	s	1SS119
D5	9-994-773-01	s	ERA15-06
D6	9-994-774-01	s	1SS136
D7	8-719-948-45	s	ERA22-08

Ref. No.	Part No.	SP	Description
HLC	1-459-823-11	s	COIL,HORIZONTAL LINEARITY
IC2	8-759-300-28	s	HA11423MP: HITACHI
IC3	8-759-100-94	s	μPC358G2:
Q10	8-729-881-23	s	2SC2812-L7
Q11	8-729-881-23	s	2SC2812-L7
Q12	8-729-100-76	s	2SA812
Q20	8-729-881-23	s	2SC2812-L7
Q21	9-994-771-01	s	2SD1220
Q22	8-729-119-00	s	2SK612
Q23	8-729-162-43	s	2SB624-BV3
R43	⚠1-216-109-11	s	CHIP 330K 5% 1/10W
R44	⚠1-216-083-11	s	CHIP 27K 5% 1/10W
R60	⚠1-216-057-11	s	CHIP 2.2K 5% 1/10W
R61	⚠1-216-057-11	s	CHIP 2.2K 5% 1/10W
R66	⚠9-994-785-01	s	10M
R67	⚠9-994-786-01	s	91K
R69	⚠1-216-081-11	s	CHIP 22K 5% 1/10W
R70	⚠1-216-079-11	s	CHIP 18K 5% 1/10W
R72	⚠1-216-081-11	s	CHIP 22K 5% 1/10W
R73	⚠1-216-081-11	s	CHIP 22K 5% 1/10W
RV10	9-994-787-01	s	5K
RV11	9-994-788-01	s	5K
RV12	9-994-789-01	s	200
RV13	9-994-790-01	s	500
RV20	⚠ 1-228-459-11	s	METAL 10K
RV21	⚠ 1-228-458-11	s	METAL 5K
T1	⚠ 1-439-419-11	s	FBT

SW BOARD

Ref. No.	Part No.	SP	Description
	1-589-129-11	o	MOUNTED CIRCUIT BOARD "SW" (J,UC)
	1-589-129-21	o	MOUNTED CIRCUIT BOARD "SW" (EK)
C1	1-124-438-11	s	ELECT 1 20% 50V
C3	1-124-584-11	s	ELECT 100 20% 10V
C4	1-124-584-11	s	ELECT 100 20% 10V
C5	1-126-154-11	s	ELECT 47 20% 6.3V
C6	1-124-438-11	s	ELECT 1 20% 50V
C7	1-124-462-11	s	ELECT 10 20% 16V
C8	1-163-113-11	s	CHIP CERAMIC 68PF 5% 50V
C9	1-163-105-11	s	CHIP CERAMIC 33PF 5% 50V
C10	1-163-015-11	s	CHIP CERAMIC 0.0033 10% 50V
C11	1-163-038-11	s	CHIP CERAMIC 0.1 25V
CN1	9-994-803-01	o	8P
CN2	9-994-804-01	o	3P
CN3	9-994-805-01	o	5P
CN4	9-994-806-01	o	7S
CN5	9-994-807-01	o	2P
CP	9-994-808-01	s	PROTECTORS ICP-N10(EK)
D1	8-719-914-43	s	DAN202K
IC1	⚠ 8-759-630-27	s	M5236ML: MITSUBISHI
L1	9-994-800-01	s	100μH
L2	9-994-801-01	s	47μH
LED1	9-994-802-01	s	SLH-56VT
Q2	8-729-881-23	s	2SC2812-L7
Q3	8-729-881-23	s	2SC2812-L7
Q4	8-729-881-23	s	2SC2812-L7
Q5	1-806-828-11	s	2SC2814
Q6	9-994-796-01	s	2SC3722K
Q7	9-994-796-01	s	2SC3722K
Q8	8-729-881-23	s	2SC2812-L7
R2	⚠ 9-994-799-01	s	CHIP 24K 5% 1/10W
R3	⚠ 1-216-064-11	s	CHIP 4.3K 5% 1/10W
RV1	⚠ 1-228-473-11	s	METAL 5K
RV2	1-230-075-11	s	CARBON 2K "CONTR"
RV3	1-228-475-11	s	METAL 20K
RV4	1-226-368-11	s	CARBON 10K "BRIGHT"
S1	1-570-845-11	s	SLIDE "PEAKING ON/OFF"
S2	1-570-845-11	s	SLIDE "TALLY ON/OFF"

LED BOARD

Ref. No.	Part No.	SP	Description
	1-589-127-11	o	MAUNTED CIRCUIT BOARD "LED"
	9-994-810-01	o	LED PWB
CN9	9-994-809-01	o	RECEPTACLE, 5P
LED2	8-719-800-25	s	TLR109A
LED3	8-719-800-25	s	TLR109A
LED4	8-719-800-25	s	TLR109A
LED5	8-719-800-19	s	TLO102A

FRAME

Ref. No.	Part No.	SP	Description
Q1	8-729-315-63	s	2SB856

PACKING MATERIAL AND ACCESSORIES

Ref. No.	Part No.	SP	Description
	3-166-610-01	o	CARTON, INDIVIDUAL(UC)
	3-166-612-01	o	CARTON, INDIVIDUAL(EK)
	3-699-152-01	o	CUSHION, UPPER
	3-699-153-01	o	CUSHION, LOWER
	3-701-627-01	o	BAG, POLY

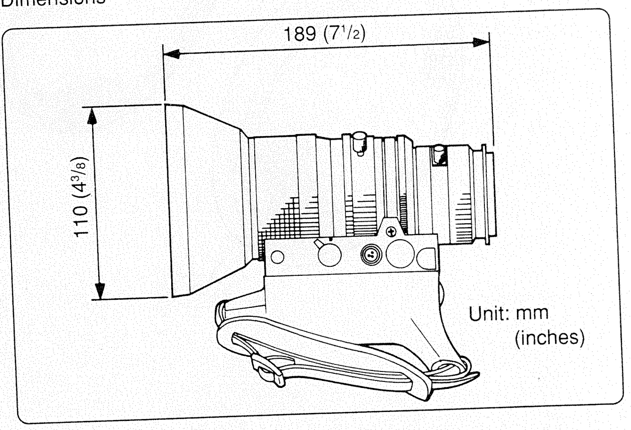
VCL-712BX

ZOOM LENS

SPECIFICATIONS

Focal length	7.5 to 90 mm
Zoom	Manual and motorized, selectable Zooming ratio: 12 ×
Maximum aperture ratio	1.4
Iris control	Manual and auto, selectable 1.4 to 16 and C (closed)
Range of object field (at the distance of 1.1 m)	W (wide angle): 660 × 880 ($24^{1}/_{2} \times 34\,^{3}/_{4}$ inches) T (telephoto): 55 × 73 mm T (telephoto): ($2^{1}/_{4} \times 3$ inches)
Minimum object distance	1.1 m
Filter thread	72 mm dia., 0.75 pitch
Mount	Bayonet mount, $^{1}/_{2}$ inch
Weight	About 1.2 kg (2 lb 4 oz) with lens hood
Supplied accesory	Operating instructions (1)

Dimensions



Design and specifications are subject to change without notice.

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SERVICE MANUAL

No.	Part No.	SP	Description
1	3-707-247-01	o	LEVER, ZOOM
2	3-708-108-01	o	HOOD
3	3-708-109-01	o	CAP, HOOD
4	3-708-110-01	o	CAP, DUST